Remarks
ON THE
PATHOLOGY OF PNEUMONIA AND PLEURO-PNEUMONIA;
WITH NOTES OF EIGHTY-FIVE CASES.

Read before the Liverpool Medical Institution,

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PNEUMONIA is so trite and familiar a subject, and in one form or other has been so often brought before this Society, that I can only excuse myself for introducing it again, partly on the ground of the great interest that has always attached to its treatment, but chiefly on that of the new and interesting questions which at the present time are awaiting solution in reference to its pathology—questions which, if decided in the affirmative, will cause us to class pneumonia among the zymotic diseases. For generations this disease has been the chosen battle-field of therapeutists. The bleeders, the givers of mercury, of tartar emetic, and of alcohol, and the disciples of the expectant method have all appeared in turn, and each has claimed a decisive victory. The wide discrepancy of their results has been explained by the well-known theory of a change of type in disease in general. Whether that be true or not, there can be little doubt that there have been many changes of type in pneumonia; that for long periods the disease has presented a mild sporadic form, which, when uncomplicated, terminated in recovery under almost any form of simple treatment. At other times, again, the disease presented a much severer type, which was believed to demand and to be benefited by bleeding and other heroic measures, and to be very fatal if they were withheld; while in other instances the disease has assumed so malignant a type that treatment of any kind seemed of small value. This remarkable variability of pneumonia, while rendering it unsuitable as a test disease for comparison of the results of different methods of treatment, adds greatly to its pathological interest. The resemblance which, in its sudden onset, initial rigor, and rapid defervescence, it has to the class of fevers is rendered much closer, where we find it varying greatly in severity at different times, and occasionally becoming epidemic, and even infectious.

Probably for nearly a century croupous pneumonia in England has been mainly of a mild and sporadic type. Most of our text-books describe this form of the disease; it is unquestionably the one which we usually meet with. Consequently we are rather apt to forget that other forms of pneumonia exist, and if examples of any other type present themselves perhaps we are rather slow to recognise them. The evidence is nevertheless conclusive, that an epidemic pneumonia does occasionally occur in the human subject, and an epizootic form in the lower animals, and that it is occasionally infectious. Among cattle it is perfectly clear that two forms of pleuro-pneumonia exist, the one sporadic, the course, symptoms, treatment, and ratio of mortality of which have long been known with considerable accuracy; the other an epizootic form, highly infectious, having a mortality three or four fold as great as that of the sporadic form. It is a remarkable fact that the infectious epizootic form was unknown to English veterinary surgeons until the year 1842, when it suddenly appeared in England and spread rapidly from county to county.[1]

The evidence of similar epidemic pneumonias and pleuro-pneumonias affecting the human subject is very strong. It would be easy to fill pages with accounts of the various epidemics described by Ozanam and other writers, beginning even so early as 430 B.C. with the fatal outbreak of gangrenous pneumonia at Athens described by Thucydides. But I will merely mention with great brevity two, which are quoted from older authors in Dr. Sturge's work on Pneumonia, and then pass on to speak of recent epidemics which have been observed by men who studied and described them in the light of modern pathological knowledge. The Belgian epidemic in 1557 was characterised by "vehement cough and fever, pain in the side, and difficult respiration; bloody expectoration occurred on the third day, and death on the fifth to the eighth, unless bleeding was performed on the first or second day," bleeding at a later stage was held to be useless. The Philisbourg epidemic of 1688 was characterised by "stitch" in the side and chest oppression; the disease terminated, in fatal cases, about the eighth day, in delirium, convulsions, or diarrhœa. The lungs were found "actively inflamed and hepatised, in many parts purulent, the chest and pericardium filled with bloody serum." In most of these reports of ancient epidemics of pneumonia it is to be noted that when post-mortem appearances are described, there was fluid in the pleuræ and pericardium.

Among the modern epidemics is that which occurred in the Mediterranean Fleet in 1860, and which Dr. Bryson describes in THE LANCET for Jan. 9th, 1864. It was a fatal form of typhoid pneumonia, often accompanied by effusion into the pleuræ and by diarrhœa and dysentery. Its resemblance to the pleuro-pneumonia of cattle was specially remarked. It was believed that the sick landed at Malta gave the disease to other inmates of the hospitals.

The Iceland epidemic of 1863 is interesting. My old friend Dr. Hjaltelin has often mentioned it to me. He describes it fully in the *Edinburgh Medical Journal* for April, 1864. Pneumonia, like all chest diseases, except hydatids of the lung, is rare in Iceland, but when it does occur it is in a most fatal epidemic from. In 1863 the disease prevailed to a frightful extent among the Icelanders. The main lesions found after death were extensive hepatisation and quantities of lymph and serum in the pleural cavities. Dr. Hjaltelin was in the main an opponent of bloodletting, but in this epidemic he came to the conclusion that it was necessary; he found that if it were omitted the patient generally died on the second or third day. There were at that time only eight medical practitioners in the whole of the island, consequently numbers of the sick had no professional attendance; and amongst them Dr. Hjaltelin describes the mortality as being very high; for example, in one parish out of twenty-four cases seventeen deaths occurred. Knowing from experience the extreme severity of the climate and the miserable huts in which the Icelanders live during their nine-months' winter, it is a matter of much surprise to me that sporadic pneumonia is so rare.

Dr. Kühn of Moringen, in Hanover, reports an outbreak which occurred in that town in 1878. Forty-five cases occurred. The disease was marked by great prostration, enlargement of spleen, and albuminuria; there was almost always pleuritic effusion. Pericarditis occurred in one-fourth of the cases, meningitis in one-ninth, and diarrhœa in two-thirds. It was distinctly infectious. In addition to the lesions named above, parenchymatous nephritis and fatty degeneration of the heart were frequently found at the autopsies.[2]

In the year 1881 an outbreak occurred at Lustnau, near Tübingen. Among a population of only 1600 forty-four cases occurred, and of these ten were fatal. If time and space permitted many other instances might be quoted, as for instance, the Christiania epidemics of 1847 and 1866, also that recorded by Dr. F. H. Daly in THE LANCET for Nov. 12th and Dec. 24th, 1881, where six persons in one house to all appearance contracted pneumonia from one another, just as they might scarlatina or typhus. In many of these epidemic outbreaks there is evidence of the prevalence of cold winds and severe weather at the time, in other cases no such exciting cause appears to have existed.

Passing from the subject of the epidemic and infectious forms of pneumonia, I wish next to speak of the pathological problem referred to in the opening paragraph—viz., the supposed origin of pneumonia from a specific micro-organism.

In the year 1875 Professor Klebs of Zurich described in the fourth volume of the Archives of Experimental Pathology certain micro-organisms which he had observed in inflamed lung, and which he named "monas pneumoniæ." A little later Eberth saw the organisms in the lung and in the pleural effusions of a case of pneumonia, and described them in the twenty-eighth volume of the Archives of Clinical Medicine. Koch also gives an account of them in the Reports of the Imperial Health Department for 1881. Dr.

[1] Cluer on Cattle Diseases.

[2] THE LANCET, August 24th, 1878.

Friedlander, Privat Docent in Pathological Anatomy in Berlin, and Dr. Frobenius likewise publish detailed accounts of cases of a severe form of pleuro-pneumonia in which in the lungs pleural effusion and lymphatics were found quantities of an elongated micrococcus, the organism being often seen in pairs or chains, and enclosed in a mucigenous envelope. Friedlander and Frobenius succeeded in cultivating these organisms in blood, serum, and in other fluids, and they then proceeded to inject the micrococcus into the lungs of various animals. Five dogs were experimented upon; one of them died of pleuro-pneumonia. Several rabbits had the injection made into the lung, but without result. Guinea-pigs were tried, and about half the number were seized with pneumonia. A large number of mice were inoculated, and in every instance fatal pleuro-pneumonia followed; the consolidated lungs and the pleural effusion were found full of the micrococci. Mice were placed in an atmosphere into which the micrococci were thrown by a spray producer, half of those inhaling this atmosphere contracted pleuro-pneumonia.

There thus exists a certain amount of evidence that some or all cases of pneumonia depend upon the presence of a micrococcus, but the evidence cannot as yet be regarded as conclusive. The problem is a very important one, and one which it may be hoped physicians and pathologists will speedily solve. Many of the cases in the annexed table would have afforded an excellent opportunity for investigation, but most of them occurred at a time when little or nothing was known of a pneumonia micrococcus. The sputum of Cases 84 and 85 was found, when treated with gentian violet and iodine, to contain multitudes of micrococci, but whether or not they were the true specific organisms of pneumonia it is not possible to say. The series of cases given includes every case, complicated or uncomplicated, which I have had during the past seven years, with one exception. Owing to imperfection of records, the details are not quite complete. In some of the fatal cases either an autopsy was refused or no notes of it were preserved. It need hardly be remarked that I do not bring these cases forward as an example of a low mortality and successful treatment, though I believe the treatment was as successful as we could anticipate in the class of cases treated. The chief interest of the table consists in the extremely high mortality which prevailed at certain times, and in the remarkable variation in type which the disease presented in different years.

Before passing on to the principal deduction which I propose to draw from these cases, there are one or two minor points to be mentioned, and the first is this. Most of our pneumonia cases at the Northern Hospital are sailors or dock labourers. Many of them are habitually intemperate; where the patient confesses intemperance his testimony may generally be accepted; when he denies it his evidence cannot, perhaps, be always taken so unreservedly, as was made manifest by a patient of mine who did not regard himself as by any means a drunkard, but who was found, on careful cross-examination, to have habitually taken three quarts of rum or whisky daily. It will be seen, on referring to the table, that almost every confessedly intemperate man either died or suffered some complication. The second point is this. At the Northern Hospital we receive a great many drowning cases, and many of them take pneumonia. In fact, it is a routine practice with us to keep these people in bed for at least four days. It will be seen that my list includes twelve of these cases. They are nearly always intoxicated at the time of the accident, and in many the immersion was a prolonged one. The chief point of interest in these cases is that we are able to watch the physical signs from the beginning of the disease, and the first indication is diminished respiratory murmur on the side which is about to be attacked, this is followed by slight harshness, and then later come the crepitation and dulness. Thirdly, many of the deaths—as, for example, Nos. 15, 21, 52, 53, and 79—may be put down quite as much to antecedent disease of other kinds as to pneumonia; also many of the cases came in late in the course of the disease, and had been under very unfavourable conditions prior to admission. Still, making allowance for all these special causes of mortality, the death-rate remains very high.

Now, I come to the chief point to which I desire to direct your attention. During certain periods of the seven years over which the table extends I was much struck with the malignant form which the disease presented: Case 8 was the first of the kind. Both lung and pleura were involved. There were diarrhœa and extreme prostration, and after death we found the lung in a softened and almost rotten condition, and the serum in the pleural cavity putrid and offensive. After this no specially malignant case occurred until 1879, when seven cases of pleuro-pneumonia were admitted among a total of thirteen cases, and of these seven died. During the succeeding twelve months the cases were of a milder kind and only two deaths occurred, but from the end of December, 1880, throughout 1881, and up to January, 1882, nearly every case admitted was of almost severe type. Out of a total of seventeen cases ten were pleuro-pneumonia, and out of the whole number of seventeen only four recovered, notwithstanding our utmost care. I need scarcely say that so frightful a mortality occasioned great concern in the minds of all who had to do with these cases, and that we used every endeavour to save them. Subsequently to January, 1882, the disease became much milder in type, the pleura being rarely involved, and during the two years and a quarter that have succeeded I have had only two deaths—viz., Case 69, a poor girl who died after a premature confinement; and Case 79, a drunken publican who was brought in almost dead after long immersion, and, in addition, comatose from a head injury. These, strictly speaking, are not pneumonia deaths at all. During 1879 and 1881 I was fully convinced that we had to do with a malignant and septic form of pneumonia, for the following reasons—(1) the extreme prostration of the patients, (2) the frequency of pleurisy—out of twenty-nine cases the pleura was involved in sixteen; (3) in three cases meningitis occurred, and in two pericarditis. Albuminuria, delirium, and diarrhœa were also common. How abnormally frequent these complications were may be seen if we take as a basis of comparison 8000 consecutive cases of pneumonia tabulated from the Reports of the *Allgemeine Krankenhaus* in Vienna. Among these pleurisy occurred in 5 per cent., meningitis in 1 per cent., and pericarditis in 1 per cent. In many respects the severe cases occurring in the years 1879 and 1881 resemble those described during epidemics of pneumonia, but I saw no clear evidence of infection. Selecting twenty-nine of the severest cases I found that five came direct from ships in the docks; that the residences of eight were widely scattered at long distances from one another, in different parts of the city; that a group of six cases all came from one very limited area within a radius of a hundred yards, that another group of five cases came from another still more limited area, while the remainder lived near the two last-named centres. The following table of the pneumonia deaths in the Liverpool Hospitals, taken from the return of the medical officer of health, shows that the years 1879 and 1881 were years of great mortality:—

Year.	Workhouse.	Infirm.	Northern	Stanley.	W.Derby	Southn.	Total.
1876	38	7	3	...	5	10	63
1877	54	9	4	...	4	8	79
1878	85	12	7	3	4	7	118
1879	86	9	11	...	16	12	134
1880	...	...	No return		...	...	...
1881	114	8	9	2	22	17	172
1882	94	9	9	2	17	4	135

The pneumonia deaths rose from 63 in 1876 and 79 in 1877 to 134 in 1879 and 172 in 1881, and after that diminished. Dr. Robertson, physician to the workhouse, tells me the returns from that institution are not to be entirely depended upon; but even if we omit them altogether, the death-rate of the other hospitals is still found very high in 1879 and 1881. I do not know how to account for the great fatality of pneumonia during these years. It is true that Niemeyer has remarked that the disease is always more severe during the existence of an epidemic of typhus, and typhus was prevalent in Liverpool at this time. Whether we are entitled to say that pneumonia was epidemic during those two years may be open to question—personally I think it was; but as a matter of fact there is no doubt it was severe in type and very fatal.

In conclusion, I should like to say a word or two as to the treatment of these cases in the hospital. In the first place the patient is put into a comfortable bed in a warm part of the ward; he is carefully nursed by night and by day, visited once daily by the honorary physician and four or more times daily by the house-physician. His temperature, pulse, and respiration are noted twice daily during the acute stage. In

CASES OF ACUTE PNEUMONIA AND PLEURO-PNEUMONIA TREATED BY DR. CATON AT THE NORTHERN HOSPITAL.

No.	Initials	Age.	Occupation.	Habits.	Days in hosp.	Cause (if known).	Amount of lung involved.	Complications.	Result.	Notes of autopsy in fatal cases.
1	O. H.	..	Sailor	..	11	..	½, right	Diarrhœa	Rec.	—
2	D. H.	19	Miner	..	27	..	½, right	..	,,	—
3	E. S.	18	..	..	30	..	½, right	Albuminuria	,,	—
4	N. B.	35	Sailor	..	33	..	Entire, left	Diarr.; delirium	,,	—
5	N. M.	29	Labourer	..	20	..	Whole, right	..	,,	—
6	H. McC	37	Sailor	..	6	..	Whole, left	Adv. on adm.; ac. del.; diarr.	Died	—
7	M. H.	20	Horsekeeper	..	28	..	Whole, left	Diarrhœa	Rec.	—
8	H. M.	59	Labourer	..	11	..	Rt., pleuro-pneu.	Do.	Died	Grey hepat.; thickened pleura; putrid serum.
9	H. C. H.	39	Sailor	..	14	..	½, right	..	Rec.	—
10	J. W. M.	23	Labourer	..	55	..	¼, left, & pleurisy	..	,,	—
11	W. R.	36	Do.	..	19	Immersion	Double	..	,,	—
12	P. G.	18	Do.	Temperate	30	Exposure	½, right	..	,,	—
13	J. C	43	Do.	Do.	36	Do.	½, right	..	,,	—
14	T. T.	38	Do.	Intemp.	23	..	½, left	Œdema of legs	,,	—
15	R. F.	32	..	..	1	Immersion	Early pneum.	Aortic & tric. dis.	Died	Card. hypert.; atheroma; enl. liver.
16	T. S.	4	Boy	..	20	..	Pneumonia	..	Rec.	—
17	J. M.	48	Fireman	..	8	..	Pneumonia	..	Died	—
18	W. S.	50	Packer	..	12	..	½, right	Diarrhœa	,,	—
19	T. S.	10	Boy	..	19	Immersion	Pneumonia	..	Rec.	—
20	J. McC.	42	Labourer	..	33	..	½, left	..	,,	—
21	L. N.	42	Sailor	..	9	..	Whole, right	Diarrhœa	Died	Grey hepat.; waxy kidney and liver.
22	J. McC.	46	Labourer	..	4	Exposure	Dble. pleuro-pn.	..	,,	Grey hepat.; pleurisy.
23	C. J.	25	Do.	..	18	..	½, right	..	Rec.	—
24	H. S.	21	Sailor	..	12	..	Left, pleuro-pn.	..	,,	—
25	B. G.	21	Labourer	..	10	..	Right, pleuro-pn.	..	,,	—
26	R. McW.	18	Sailor	Intemp.	11	Immersion	Double, and right pleurisy	Acute delirium	Died	Grey hepat.; pleural adhesion; large fatty liver.
27	W. E.	44	Do.	..	3	..	Pleuro-pneum.	Meningitis	,,	Red hepat.; lymph; large fatty liver; lymph under pia mater.
28	E. C.	45	Do.	..	11	..	Pleuro-pneum.	..	Rec.	—
29	M. Q.	27	..	..	1	..	½, left	Pericarditis	Died	Red hepat.; lymph and 30oz. of fluid in pericardium.
30	J. J.	43	..	..	27	..	½, left	..	Rec.	—
31	E. M.	45	Sailor	..	42	..	½, left	..	,,	—
32	C. J.	44	Do.	..	7	..	½, right	Meningitis	Died	Grey hepat.; contracted kidney; effused lymph in brain membranes.
33	J. G.	42	..	..	7	..	Pleuro-pneum.	..	,,	Grey hepat.; lymph; enlarged liver.
34	W. B.	45	Sailor	..	28	Immersion	Pneumonia	..	Rec.	—
35	M. G.	35	Labourer	Temperate	31	..	Whole, right	..	,,	—
36	G. M.	27	Sailor	..	5	..	Pneumonia	..	Died	—
37	S. C.	26	Do.	..	21	..	Pleuro-pneum.	..	Rec.	—
38	P. G.	60	Labourer	..	42	Immersion	Pneumonia	Fractured ribs	,,	—
39	W. G.	54	Fireman	..	1	..	Whole, right, and pleurisy	Meningitis	Died	Grey hepat.; lymph; brain membranes thickened.
40	A. E.	40	Sailor	..	23	..	Pneumonia	..	Rec.	—
41	J. S.	29	Labourer	Intemp.	37	Immersion	½, right	Albuminur.; delir.	,,	—
42	J. B.	56	Boatman	..	38	Do.	Double	..	,,	—
43	A. McT.	45	Sailor	Free drinker	54	..	Whole, left, and pleurisy	Albuminur.; casts	,,	Died subsequently from Bright's disease, Feb. 24th.
44	P. M.	52	Hawker	..	57	..	..	..	,,	—
45	C. S.	45	Labourer	..	8	..	Whole, right, and pleurisy	..	Died	Grey hepat.; card. hypert.; cirrhosis of kidneys; liver enlarged.
46	P. S.	45	Do.	Intemp.	7	..	Rt., pleuro-pneu.	Delirium tremens	,,	—
47	T. V.	44	Sailor	..	40	Exposure	Double	Albumin. (slight)	Rec.	—
48	T. F.	41	Labourer	Intemp.	6	..	½, right, and pleurisy	Dil. heart; diarr.	Died	Red and grey hepat.; heart hyper. and dil.; fatty liver; kid. congested.
49	J. G.	48	Sailor	..	3	Immersion	..	..	,,	—
50	W. S.	39	Do.	Temperate	5	..	Dble. pleuro-pn.	..	,,	Red and grey hepat. and lymph; cirr. of liver; gran. k.; atheroma.
51	T. W.	40	Plasterer	Do.	26	..	Right, pleuro-pn.	..	Rec.	—
52	G. L.	36	Sailor	Intemp.	1	..	Pneumonia	Delirium tremens	Died	—
53	T. G.	38	Labourer	..	4	..	Right apex	Came in on 6th day	,,	—
54	W. S.	34	Do.	..	5	..	Double pneum.	Maniacal delir.	,,	Red hepat.; k. cong.; blood uncoag.
55	G. H.	38	Cooper	..	9	..	Right apex	Dilated heart	,,	Grey hepat.; fatty heart; nutmeg liver, 70oz.
56	R. C.	26	Labourer	..	19	..	Left, pleuro-pn.	Hepatitis	Rec.	—
57	J. L.	52	Coalheaver	..	3	..	Left, pleuro-pn.	..	Died	Red hepat.; lymph; atheroma; enlarged liver, 86oz.
58	J. M.	21	Shopman	..	17	..	½, right	..	Rec.	—
59	J. B. S.	33	Sailor	..	2	..	Left, pleuro-pn.	Pericarditis	Died	Red hepat.; lymph; atheroma; sago spleen.
60	L. O.	44	Do.	..	24	..	¾, left, & ½, right	Empyema	,,	Red hepat. and traces of pleurisy.
61	J. J.	27	Do.	..	5	..	Right, pleuro-pn.	..	,,	Red hepat.; lymph.
62	P. T.	33	Labourer	Intemp.	24	..	¾ right, pleuro-pn.	Delirium	Rec.	—
63	J. D.	12	..	..	10	..	Pleuro-pneum.	..	,,	—
64	T. T.	23	Sailor	..	21	..	Whole, right.	..	,,	—
65	J. P.	33	Do.	..	29	..	½, right, ½, left	Maniacal delir.	,,	—
66	M. G.	18	..	..	38	..	Left, pleuro-pn.	..	,,	—
67	C. L.	32	Sailor	..	36	..	½, right, pleuro-pn.	..	,,	—
68	A. H. H	27	Do.	..	17	..	½, right	..	,,	—
69	M. McG	19	Servant	..	6	..	½ right, ½ left	Diarrhœa	,,	—
70	F. McC	28	Labourer	..	33	..	½, left, pleuro-pn.	Prem. deliv.; delir	Died	Hepat. of both bases.
71	G. B.	16	Steward	..	14	..	½, right	..	Rec.	—
72	H. F.	40	Sailor	..	21	..	½, left	Mitral regurg.	,,	—
73	P. B. C	63	Porter	..	27	..	Pneumonia	..	,,	—
74	M. C.	40	Labourer	..	11	Immersion	½ left	..	,,	—
75	L. M.	39	Sailor	..	24	Exposure	½ right	..	,,	—
76	M. M.	44	..	..	99	..	Pneumonia	..	,,	—
77	R. L.	38	Sailmaker	..	63	..	½, left	..	,,	—
78	J. M.	37	Labourer	..	20	Exposure	½, right	..	,,	—
79	M. O'B.	38	Innkeeper	Intemp.	9	Immersion	Whole, left, ½ right	Head injury; comatose on admission	Died	Grey hepat. in entire left and ½ right.
80	J. O'N.	29	Watchman	..	19	..	½, right	..	Rec.	—
81	J. McC	29	Sailor	Intemp.	34	..	Whole, right	Nearly died on 33rd	,,	—
82	M. G.	27	Labourer	Do.	12	Immersion	½, left	..	,,	—
83	L. K.	37	Sailor	..	50	..	Whole, right	..	,,	—
84	H. A.	31	Do.	..	..	..	Whole, right	Diarrhœa	,,	—
85	F. J.	36	Bricklayer	Intemp.	..	..	½, left	Delir.; pleurisy	,,	—

the few instances in which the case is seen at the onset of the disease, mustard poultices and the internal use of aconite and spirit of nitre, or other remedies having a like action, are given with the view of checking if possible the severity of the attack. In general, however, acute fever and consolidation of lung are present when the patient is admitted. Great care is taken to avoid chill during the first and all subsequent examinations of the chest. The state of the lung having been ascertained, a jacket poultice is applied to the side affected, and this is renewed every four hours. A milk diet is given during the acute stage. If the heart's action be feeble, and particularly if the first sound be indistinct, stimulants are given, the amount and frequency being determined by the special needs of the patient. In cases of great feebleness brandy is given every two hours, every hour, or even every half hour. Carbonate of ammonia is given in five-grain doses about every four hours, along with senega, spirits of nitre, or other drug that special symptoms may render suitable. If the cough is very irritating and pain is severe, while there is no evidence of accumulating fluid in the air-passages or of kidney complication, small doses of opium are given. I have rarely employed bleeding. Case 47, however, was an exception. The patient was a robust man, attacked with a double pneumonia, who came in much cyanosed and gasping for breath, with fifty respirations per minute; the veins of the head and neck were much distended, and he was scarcely able to speak. During the next half hour he continued to get worse. Eight ounces of blood were taken from the left median basilic vein. Great relief followed, respiration slowed, and the patient became able to speak easily and comfortably. In a few hours his respirations fell to twenty-eight. In sthenic cases considerable danger may arise from the over-distension of the venous system and of the right heart, due to the great obstruction which the blood meets in its passage through the lungs. Moderate bleeding under these circumstances lowers tension to a slight extent in the venous system, and enables the right heart to overtake its arrears. In some epidemics of pneumonia, notably in the Icelandic outbreak described above, this condition was probably very common, and doubtless Dr. Hjaltelin was perfectly correct in saying that those in whom this venous congestion was relieved by an early bleeding recovered, whereas if it were not relieved the embarrassed condition of the heart added greatly to the peril of the attack.

I am fully convinced that it is a mistake to lay down any one special course of treatment as the right and true one for all cases of pneumonia, or to suppose that such treatment if wisely directed must always succeed. In ordinary uncomplicated cases of sporadic pneumonia the course of treatment described above is most successful, and the death-rate is very low, as shown by the excellent results of Professor Bennett, of Dr. Waters, and of many other physicians; but let pneumonia appear in an acute epidemic form among a full-blooded country population, and be ushered in by such intense venous congestion as we had in Case 47, then doubtless bleeding at the onset is the right treatment, and probably of more avail than anything else we can do. Or again, let a severe form of epidemic pneumonia occur in a town population and be accompanied by effusion into pleura and pericardium and by meningitis and the other complications I have described, then the treatment described may be the right one; at any rate I fear we do not at present know of any that is better, but it will not prevent the death of a large proportion of the sick, however wisely and carefully we conduct it.

METEOROLOGY IN RELATION TO HEALTH.—At a conference on this subject held recently at the International Health Exhibition, Dr. Tripe gave a number of statistics derived from his own observations dating from 1847, showing the relation between changes of temperature and certain specific diseases, such as scarlet fever, which seemed to be checked by a low temperature, while a sudden fall of the thermometer was connected with an increase of deaths from lung diseases. Mr. G. J. Symons read a paper on English Climatological Stations, in which he described the apparatus required for making meteorological observations. At an adjourned meeting of the conference, papers on "Equinoctial Gales—do they occur in the British Isles?" and on "Some Occasional Winds and their Influence on Health," were read by Mr. R. H. Scott and Mr. W. Marriott respectively.

ACUTE TRAUMATIC MALIGNANCY.[1]

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THE predisposing and exciting causes of carcinoma, sarcoma, and other species of malignant disease, and the rapidity of their growth, have always been a subject of the deepest interest to the practical surgeon. Theory after theory has been promulgated, cause after cause named as the exciting agent in the production of this diseased condition. However, little has been added to our state of knowledge of recent years, notwithstanding the advances made in pathological research, to account more definitely or more accurately for its production and commencement in the bodies of certain constitutions. The doubt as to whether it is altogether a constitutional malady, or whether it is a disease assisted and encouraged by local effects, having at the same time a hereditary constitutional origin, being a combination of the two factors, seems to me still to exercise the minds of modern surgeons as it did in the past.

Some two years ago I happened to read a paper[2] on this subject from the pen of Mr. Richard Barwell, senior surgeon to Charing-cross Hospital, and since then I have paid particular attention to certain clinical characters and conditions of malignant tumours of the sarcomatous and carcinomatous group which have come under my observation, and in some of these cases I certainly could distinguish a remarkable difference in the extraordinary rapidity of their growth, such development following quickly after the receipt of a blow or other injury to the part affected, so much so that I feel the title of this communication correctly denotes a class of malignant growths clearly distinguishable from the rest of the generic species by the rapidity of its development after local injury.

Mr. Barwell, in his introductory remarks in the paper alluded to, says: "The cases on which the name is founded made a great impression on my mind, leading me to think that occasionally under the stimulus of severe irritation the tissue elements, which under favourable circumstances would assume only the additional activity necessary for repair, may exhibit a more prolific cell germination, culminating in a rapid form of malignant disease in one of those forms, whether named myeloid or round-celled sarcoma or encephaloid cancer, which consists of little else than heaped-up cells and their progeny."

In the following cases it will be found that malignant tendencies rapidly developed after the receipt of local injury. I would, however, be inclined to think that, without some inherent malignant constitutional tendency, a local injury would not be followed by anything more than some slight temporary benign irritation and inflammation necessary for the healthy reparation of the part. For it would appear, according to Billroth, that the development of tumour depends upon two factors: (1) the inherent tumour-forming diathesis; (2) local irritation, which may be either inflicted suddenly or may be of long-continued duration.

As already mentioned, in healthy individuals we find local injuries, such as wounds and blows, merely go through the benign and natural processes sufficient for repair, such as inflammation, ulceration, suppuration, and cicatrisation, and such injuries produce no bad constitutional or local effects whatever. On the other hand, in patients with a constitution having a hereditary tendency to tumour diathesis, small skin wounds and other slight injuries are rapidly followed by a very fast-growing malignant tumour at the original seat of injury. From this, then, it would seem that although the tumour diathesis may be present in the body of a given individual, the condition may be harmless for a certain limited time, or for a very considerable period, as it requires another factor to complete the process of malignant development, and such factor, it would appear, is frequently contributed by a traumatism or other local irritation of one kind or another; and should the latter factor of local irritation be wanting, no malignant development takes place.

Take, for example, the lower lip, a very common situation

[1] A paper read at the Surgical Section of the Irish Academy of Medicine, May 9th, 1884. [2] British Medical Journal, Feb. 11th, 1882.

among certain classes for epithelial cancer to make its appearance. In early stages, and up to a certain point, I would think that only the tumour diathesis was present—in fact, that it was in a pre-malignant condition. To this add the factor of continual local irritation by means of the heated stem of a short clay pipe, and you have epithelial cancer very rapidly developed. Also, in malignant tumours of the breast, the tumour-producing diathesis may be present for a considerable time, and no malignant development take place until a blow or other injury is received at the part, and rapid enlargement and growth follow. The following appear to me to illustrate the subject of my paper.

CASE 1.—B. H——, a young gentleman, aged ten, in the month of June, 1869, fell off some rocks at the sea-shore. In falling he came in contact with a large stone, which struck his right leg about two inches below the tubercle of the tibia. He felt the place rather stiff and painful for two or three days after the injury, which was treated by cold lotions, bandaging, and rest. However, the pain never altogether disappeared, and in about a fortnight the whole circumference of the limb began to swell, and the seat of the injury, on the front of the tibia below the knee, became very painful. He was unable to walk, and began rapidly to lose flesh and appetite. The limb by this time had become considerably enlarged, glazed, and tense, with large blue veins coursing over its surface. About the end of July his father consulted the late Mr. Adams, who recommended that Sir George Porter should also be consulted. At this time the nature of the case was clearly defined, being considered by the surgeons mentioned to be a rapid development of malignant disease of the tibia, at the seat of injury. Amputation at the lower third of the thigh, above the knee-joint, which was already more or less implicated, was suggested as the only means available to save the little patient's life. The father, however, would not consent, but took the child to London, where he consulted Sir James Paget and Mr. Cæsar Hawkins, who also recommended that amputation should be performed. After remaining in London some few days, the father brought the boy back to Dublin, who by this time had become very much weaker and more emaciated, being apparently worn out by the incessant pain and sleepless nights. At the request of the father the limb was amputated at the lower third of the thigh by Sir George Porter, assisted by the late Mr. Adams, Mr. William Stokes, and myself. The boy recovered the shock of the operation, but sank three weeks afterwards from sheer exhaustion. In this case the patient was apparently in the best of health up to the time of the fall, and from that period rapid development of malignant disease (fungus hæmatodes) set in, and he died within three months of the receipt of the local injury.

CASE 2.—Robert F——, aged twenty-five, was admitted to the Meath Hospital from the county Kerry on March 18th, 1884, under my care, suffering from an enormous tumour growing from the left side of the neck. His previous history was as follows:—About ten months before he received a severe blow of the fist on the left side of his neck, and from that time he felt pain and uneasiness in the part. A slight swelling soon appeared and grew rapidly till it reached its present dimensions, as depicted by photograph, which was taken while in hospital. His family history was good; none of his relatives were affected with cancer; he has had to work very hard, subjecting himself to much wet and cold. Latterly, he thought, the tumour had increased more rapidly in size, it had become very painful, and he had lost flesh. He had difficulty in swallowing owing to the encroachment and pressure of the tumour internally on the fauces. Several consultations were held with a view to decide as to the propriety of an attempt being made for its removal. He was exhibited at a meeting of this section, and several members present saw him. However, it was considered advisable not to operate, as the operation would necessitate the removal of the entire lateral aspect of the neck. The patient on hearing the decision regarding his case left the hospital about April 24th, 1884, for the country, without having any operation performed.

CASE 3.—Thomas N——, aged forty-nine, was admitted to the Meath Hospital from Roscrea on Sept. 11th, 1883, under my care, recommended by Dr. Powell of Roscrea, suffering from an obscure, doughy, tense enlargement of the lower inner third of the left thigh. In June of last year he was working as a navvy on a railway, where he received a severe blow on the inside of his left thigh, at the seat of the present swelling. The part was painful for a few days, when the uneasiness passed away. However, the limb always remained swollen at the point of injury, and slightly stiff. He received the blow in June, and about the middle of August he experienced great uneasiness, with sharp darting pains through the part. He then applied to Mr. Powell of Roscrea, who sent him up to the Meath Hospital. On admission, the man was rather debilitated, having lost much flesh lately; his left knee and lower part of the thigh were a good deal swollen, with large blue veins distinctly visible over the surface. As the swelling was rather obscure at first, rest, tonics, and strapping the enlargement with compound mercurial ointment were tried, but with no effect. He complained of the bursting tense pain of the tumour, and thinking there might be some fluid present I accordingly, on Oct. 9th, 1883, made an exploratory puncture with trocar and cannula, and removed a large quantity of dark-coloured bloody fluid, which gave him great relief. But the tumour continued to enlarge rapidly, and the clinical characters of the tumour were becoming manifest, as was verified afterwards by a careful microscopical examination by Mr. Abraham, that it was an ossifying sarcoma. A consultation of my colleagues was held, at which consultation Mr. Wm. Stokes was present, when it was decided to recommend amputation at the upper third of the thigh. The patient on hearing this said he would rather die than allow the limb to be removed. He accordingly left the hospital for the country about Oct. 20th, 1883.

On Jan. 3rd, 1884, the man returned to Dublin, and was admitted again to the Meath Hospital in a very much worse state. He seemed greatly worn out with pain. He said that he was now quite determined to allow the limb to be amputated, as he could no longer endure the pain. The tumour had increased considerably, and its clinical appearances were well-marked. Accordingly, on Jan. 7th, 1884, I amputated the limb by the circular method at the upper third of the thigh, with full antiseptic precautions, and the man made a rapid recovery, and left the hospital at the end of February last. It was remarkable how quickly he recovered health and strength after the limb was amputated, no doubt owing to the removal of the excruciating pain he experienced in the limb before its removal. He had been perfectly healthy up to June, 1883, when he received the local injury, and from that time the malignant character of the tumour was clearly defined in the course of three months.

CASE 4. — Francis J——, aged fifty-eight, a farmer from Kesh, was admitted to the Meath Hospital, under my care, on Sept. 24th, 1883. On Dec. 10th, 1882, during the hard frost, he fell with great force on the point of his left shoulder. It was a little sore at the time, but gave him no trouble till five weeks after the accident, when the shoulder began to swell and grew very painful. He then went to the local practitioner, Dr. Geo. Leeper, who applied anodyne liniments, followed by blistering. This gave him some slight relief, and, acting on his advice, the man went into the County Infirmary at Enniskillen, where he was poulticed and afterwards blistered. He, however, did not improve, and left the infirmary, after remaining there for seven weeks, to return to his home. He then, by the advice of his friends, applied poultices of herbs to his shoulder, which produced suppuration at the part. At this stage Dr. Leeper was sent for, who made an incision in the tumour and gave free exit to a quantity of very offensive pus, after which the swelling in the shoulder went down considerably, and he felt better in every way. While under Dr. Leeper's care a piece of diseased bone found its way to the surface. Dr. Bagot of Enniskillen saw the man at this time, and recommended him to seek admission to a Dublin hospital.

On examination, the contour of the shoulder was found very much changed, presenting an immense lobular malignant-looking enlargement (probably sarcoma), with a tense, semi-elastic surface, resembling a boiled leg of mutton, with large veins coursing over it. The glands in the axilla were also implicated, and became merged into the swelling. There was also a constant discharge of thin sanious pus, from two small openings where the piece of bone was removed. The disease and enlargement extended from the insertion of the deltoid along the clavicle and down the great pectoral muscle, across the anterior fold of the axilla, round the arm, to the posterior fold of the axilla and scapula as far as the attachment of the deltoid to the spine of that bone. On September 26th, 1883, two days after admission to the Meath Hospital, a full consultation was held on the man's case. The only operation that could have been performed was amputation at the shoulder-joint,

but as the disease had extended to the pectoral muscle on the front of the chest wall, as well as implicating the scapular muscles behind, it was thought such an operation would fall short of removing the entire disease, and further, as the patient was so reduced in strength and emaciated by the constant pain, it was considered that he would not be able to undergo such an operation. Tonics were administered and the shoulder poulticed, and on October 15th, 1883, he returned home to the country, where he died a fortnight afterwards quite suddenly, probably from an embolism. In this case the man was in the best of health up to the time of injury, on December 10th, 1882, and he died a little over ten months after the accident, of undoubted malignant disease.

In the foregoing cases it will be seen that in each instance there must have been the tumour-forming diathesis present when the injury supplying the local irritation was followed almost immediately not merely by a slow chronic growth of tumour, but by a rapid development of local malignancy. And in bringing this subject before the members of the Academy present, I am anxious to elicit their opinion as to what part the factor of social injury or irritation plays in the rapid production of malignant disease.

THE ETIOLOGY OF TETANUS, AND THE OCCASIONAL VALUE OF NEURECTOMY IN ITS TREATMENT.

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(*Concluded from page 100.*)

THAT many experiments have failed to induce tetanus in animals is deservedly regarded in the light of a result markedly antagonistic to the theory of its nervous origin; but still, considering how rare a sequel it is when one contemplates the very large number of traumatisms arising from day to day, and that the animals experimented upon must have been comparatively few in number, and with nerve centres, even spinal, somewhat differently constituted from those of man, the success which Brown-Séquard, Weber, and Heidenhain have obtained by different methods in inducing it serves to demonstrate that certain forms of irritation may undoubtedly give rise to the disease. In connexion with this nervous theory of tetanus there is one matter which to me seems difficult of explanation. No organ is more sensitive, none more rich in nervous supply, than the eye; and in none is lesion, if happening in one particular region, so certain to be followed by nerve harm. The possibility of the occurrence of sympathetic ophthalmia is ever and again a source of anxiety to the ophthalmic surgeon. How comes it, then, that tetanus, either in connexion with injury to or operation on this special organ, is so rare that, after somewhat diligent search, I have quite failed to find any reference to it? There seems nothing in the anatomical constitution or relations of the ciliary nerves rendering them less susceptible of originating such harm than those having their distribution, say, in the mucous lining of the nose. Impossible, then, as it seems to accept any one theory as explaining every case of tetanus, and yet obviously of the highest moment as regards our treatment that the probable source should be carefully sought after, and, if found in peripheral irritation, dealt with, if possible, by surgical procedure, I record as of interest the following cases.

CASE 1.—In the spring of 1878 a patient came to me from the neighbourhood of Keswick complaining of severe pain in the front of the right leg, with a certain numbness and inability to use the limb. Examination revealed, about an inch and a half below the tuberosity of the tibia and to its outer side, a distinct enlargement, firm in consistence, limited in size, and exquisitely painful when pressed upon. The pain thus created was the same, the patient stated, that interfered with her walking. Its situation, the history she gave, and the characters it presented, all led me to believe it was a neuroma, and she was advised to have it removed. This was done on the following day, and a tumour, the size of a small pigeon's egg, was removed along with about half an inch of the anterior tibial nerve, from which it sprang. The artery which lay behind and in very close relation to the tumour was unfortunately wounded, and, as one or two primary attempts to secure it failed (for it lay in the floor of a deep wound) the suspicion rested with me that the extremity of the divided nerve might have been subjected to irritation. The wound was treated antiseptically. For a week she did well; the incision had almost healed, and she was quite free from all suffering. Then came a sense of stiffness in the jaws and neck, epigastric pain, rise in pulse and temperature, rigidity of muscles, and ultimately severe tetanic spasms. She was treated with chloral and bromide of potassium in very full doses, but with little effect; and so rapidly and acutely did the disease develop, that it was evident unless something could be done the end was not far distant. I therefore divided the external popliteal nerve in the ham. For thirty-six hours after she improved; her spasms were less severe and came at longer intervals, and a hope was cherished that she might yet do well. But unhappily, in spite of undoubted amendment, there came one spasm either more severe than those which had preceded it, or affecting more than they had done the especial muscles of respiration; at all events, she died suddenly, apnœa being the immediate cause of death.

CASE 2.—Little more than a year after the death of Case 1 I saw, with another surgeon, a lad who had a few days before my visit received a lacerated wound on the posterior aspect of the radial side of the wrist, in the region of the distribution of the radial nerve. What had struck his medical attendant from the beginning was the pain he suffered each time the wound was dressed. On the morning of our visit he complained of stiffness of his jaws, and he had undoubtedly stiffness of the muscle of his neck. He had also a slight rise in temperature with a little quickening of pulse, and the expression of his face was drawn and rigid. The dressings were undone, and although they were removed with great gentleness, the pain darting up the arm from the injured point made him scream. Examination with a probe detected in the floor of the wound one spot where when pressure was applied the spasm and the pain became intense. Closer inspection revealed a nerve, probably one of those passing to the thumb, lacerated and well-nigh divided. The injured portion was exsected and the dressing reapplied. The sufferings of the boy ceased at once. Within twenty-four hours the stiffness of the neck and the jaws disappeared, and when I saw him again the very brightness of his face told how much suffering and peril had, on the occasion of my former visit, been his. With the exception of an aperient, he had no medicinal treatment.

CASE 3. (This case is related, as will be more fully explained in the context, very reservedly as one of tetanus.) Not many weeks ago a table-maid consulted me in these circumstances. Two days before her visit she had been seized with sudden and painful spasm in the hand, the spasm beginning by extreme flexion of the ring and little fingers. This had extended to the arm; and so severe and uncontrollable had it become, that on the day I saw her she had upon two occasions dropped the tray she was carrying. On questioning her this was her story:—A week or ten days before I was consulted a needle pierced deeply the mass of the muscles forming the hypothenar prominence, and she believed that in the attempt to withdraw it, an attempt so far successful, a part of it broke off. She certainly had in one spot severe pain on pressure, a pain which at once gave rise to more or less spasm. Under chloroform, and guided by this painful spot and by a certain hard feeling in it, I made a search for the needle point, but failed to find it. Confident, however, that by irritation of some nerve filament it was occasioning the spasm she described, and might lead to more serious consequences, I turned the knife transversely in the wound and divided deeply all the textures in its line. From the moment this little operation was performed she was well, and it is only within the last few days that I have been able to assure myself that she never had afterwards, in any way, the smallest discomfort.

The improvement in Case 1 after the operation was notable and decided; and although it terminated fatally, it terminated, as I once heard remarked by a distinguished surgeon with reference to a case of tetanus under his own care, "when it was getting well." And such a result is not difficult to understand, for we know that the ordinary recovery from tetanus is slow and gradual, and that it is marked by the very conditions this patient presented, lengthening intervals between the spasms and less violence in their attack. Nor can we expect the disease, if fully developed,

and developed in its highest manifestations, to yield at once in every case even when the source of excentric irritation has been cut off. Impossible as some have found it to verify the observations of Clark and Coats, the accuracy and the skill of these investigators are so well recognised and so indisputable that we cannot but believe that the lesions they have described had the fullest existence. Given, then, such structural changes as the direct result of excessive activity of the spinal nerve-cells, there seems a fair presumption that a reflex excitability once established in so uncontrollable and exaggerated a degree, and possibly perpetuated by the anatomical changes which it has induced, will of necessity take a certain length of time to pass away. During this slowly advancing period of recovery spasms will occur, and so occurring, may unhappily terminate the life of the patient. I am not sure that in some cases of puerperal eclampsia we have not a very similar condition. The nervous system of the pregnant woman is in a high state of reflex excitability, so much so that, after excluding by careful examination all evidence of renal harm, it is difficult in some instances to explain the occurrence of convulsion upon any other supposition than that labour, acting as a source of irritation, gives rise directly to such nervous phenomena. And in these cases the convulsions often do not end with the labour; they continue for some hours, perhaps days, until lengthening intervals and feebler attacks point to their gradual cessation. But they do not all end thus. Death may seize the patient even after the primary source of the excitation has, hours previously, been successfully terminated.

Case 2 was, as regarded the result, happily very different. A mere case of trismus some might say, but it was trismus arising in connexion with a notable injury to a nerve, and occurring as the first symptom of a general disorder. The lad was well housed, well clothed, and well nursed, so that any suspicion of exposure to the exciting causes of muscular rheumatism was readily excluded. Moreover, the relief afforded by the operation was marked and unmistakable.

As regards the case of the table-maid, I make no assertion that it was one of true tetanus. Possibly it was one of those, such as are described by Swan, in connexion chiefly with nerve wounds inflicted during venesection, but it had a very suspicious resemblance to the cases beginning, as Follin characterises them, by "secondary traumatic spasm." That tetanus has two distinct modes of onset is pretty well established—the one by trismus, the other by traumatic spasm, and the leading symptoms of this case were not unlike those observed in one recorded by Mr. Morgan.[1] In that instance a boy received from his master a blow on the hand with a cane. Pain and spasm commenced in the injured part, the first true symptom being a gradual spasmodic contraction of the flexor muscles of the hand, by which the fingers were drawn into the palm. The cramp gradually extended, and the lad died. But, be my case what it might, the lesson it taught was not an unimportant one, that by simple nerve section we may at times relieve very distressing reflex symptoms. And in so fatal a malady as traumatic tetanus, rare as the recoveries have been even after the performance of neurectomy, they have, I again submit, been sufficiently numerous to encourage its performance in fitting cases. A serious proceeding it doubtless is to sever a nerve trunk, and so perhaps condemn certain parts beyond to hopeless inactivity, but experiments and experience have shown that nerve suture can be performed with very fair prospects of success, and that the earlier the date at which it is carried out after the nerve has been divided the greater is the hope of recovery. Weir Mitchell[2] has shown that primary union after division is, except in very young subjects, almost unknown, and that the rarity of the occurrence is due to the fact that degenerative changes manifest themselves with great rapidity in the separated extremities. A week, however, usually elapses before these set in, and it is some little time before they are fully developed. It seems, then, that if in the early days after division the parts are kept in a state of relaxation so as to avoid, what is so marked in the cases of severed nerve trunks, their tendency to retraction, that within a limited time, say a month after its division, the cut nerve might be by suture dealt with successfully. This as regards one trunk. When, however, as in some injuries, it becomes necessary to deal with a whole plexus, the importance of and the anxiety attending the procedure are largely added to. Tripier speaks without hesitation in the matter, and advocates, if need be, "true nervous amputation" of the limb, expressing further the belief that within six months all harm following it would be gone. This is too sanguine an estimate; and in cases where many large and important nerves would require division amputation is, I believe, preferable. That even this extreme measure is not often attended by success is well known, and the personal experience I have had of it in four cases has not been encouraging. True, in one where half the hand was removed five days after the symptoms of tetanus were developed, there was for twelve hours marked benefit, but the spasms returned, unmitigated in their severity, and the boy died. Curling, however, in his well-known brochure tabulates a number of cases treated by amputation, of which, if memory serve me aright, he states that seven recovered. Have we when considering the propriety of nerve-section any canons to guide us as to the cases best suited for it, as to the special trunk or trunks which should be divided, and as to the best method of dealing with them after their division?

In all cases of traumatic tetanus, especially when attended by breach of surface, careful inquiry and examination should be made as to the existence of pain at the point of injury, as to tenderness in the course of the nerve trunks leading to it, and as to the part in which the spasm commences. Doubtless in many cases beginning with trismus these points are overlooked, and I am of opinion that by more careful search they may not unfrequently be discovered.

Knowledge of anatomy, as regards nervous distribution, of the existence of pain, of the starting-point of the spasm, of marked tenderness in the line of the nerves, and of the presence of Wood's symptom, "the manifestation of pain in the wound at the moment that pressure is made upon one of the nerve trunks which terminate in it," will all guide us as to the nerve or nerves to be divided.

It is quite possible that, in certain circumstances, after the neurectomy has been completed it may be well to take means to prevent the occurrence of primary union, and this will be carried out in the safest way by the method of Malgaigne, the doubling back upon itself of the peripheral section. This can in no way render more difficult the future operation of suture. Of nerve stretching I have not ventured to speak, as I have had no experience of it in tetanus, and the records, so far as I have read them, of the measure of success attending it have not been very favourable. The successful case of Verneuil is well known, as is one recorded by Mr. Wheelhouse[3] of Leeds; but apart from these and one occurring in the practice of Prof. Railton of Madras, I know of no others. As between stretching a mass of important nerves like the brachial plexus in a disease in which spinal polarity is extraordinarily increased or amputating the limb, I should prefer the latter.

Carlisle.

[1] Poland, Holmes's Surgery, vol. i., p. 314.
[2] Injuries of Nerves, p. 235.

THE COMPLETE DESTRUCTION OF DISSEMINATED PATCHES OF LUPUS VULGARIS BY A NEW DOUBLE-SCREW EXCAVATOR.

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IT is generally admitted that surgical treatment alone is successful in this obstinate malady. Those surgeons, however, who have practised either scraping, or scarification, or both, will have been disappointed to find small isolated tubercles reappearing in the substance of the scar, or in the margin of the original patch. The truth is these little tubercles are difficult to remove by scraping or scarification. Yet it is absolutely essential that they should be completely destroyed, as otherwise they will become centres for the spread of the disease. To accomplish this end it is necessary, first, that the instrument should be somewhat larger than the tubercle, so that when inserted it may firmly grip the surrounding tissue; secondly, that it should possess many lacerating edges, whereby the nodule may be

[3] Medical Times and Gazette, 1880, p. 216.

thoroughly ploughed up; and lastly, that it should be capable of rapidly penetrating to the bottom of the nodule. Finding it impossible to comply with these conditions with the ordinary scoop, I devised an instrument, which has been made with much skill for me by Messrs. Krohne and Sesemann of Duke-street, and which, I think, fairly meets all the requirements mentioned—that is to say, in its size and in the number of its edges it fulfils the first two essentials, and a few words will suffice to demonstrate its still greater advantage of rapid penetration. In a single-threaded screw of, say, six edges, it is clear that six complete turns of the instrument will be required in order to insert the cone to its full depth. Now, the speed of entry is known to be in direct proportion to the "pitch" or distance apart of the threads of the screw. My plan has therefore been to arrange the lacerating edges round the cone in the form of two spirals, parallel to each other, in technical language, a double-threaded screw. By this means, as the pitch of each spiral, considered separately, is double that of the single-

threaded screw, it is obvious that the cone can be inserted to its full depth with but three turns of the instrument, the net result being to reduce the duration of the operation, and therefore the sufferings of the patient, by fully one-half. In withdrawing the instrument the soft new growth is removed and the resulting scar is flat, pale, and satisfactory.

Montagu-square, W.

NOTES OF

THREE FATAL CASES OF HEAT FEVER ("HEAT APOPLEXY"), WITH REMARKS.

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SURGEON TO H.B.M. AGENCY, ZANZIBAR, AND FORMERLY HOUSE-SURGEON AND HOUSE-PHYSICIAN TO THE LONDON AND ROYAL PORTSMOUTH HOSPITALS.

THESE cases have recently occurred in Zanzibar. They were all natives of the coast; two were members of a gang of eight prisoners who had been brought from Mombassa, a town on the mainland not far distant, to Zanzibar for their trial on charges of murder; the third was imprisoned for some local offence. They had been here only three days, and during this time were confined in the Sultan's prison or fort; and I may perhaps as well here premise that with the management of the Sultan's prisons I have nothing to do, and my attention was drawn to what occurred through the British Consul (Sir John Kirk) taking an interest in the welfare of some of these particular prisoners. The prisoners were placed in a room on the basement of the fort, where were also confined from seventy to eighty other prisoners. The place in which they were confined measured, roughly, 25 ft. to 30 ft. long, by 15 ft. in height and 15 ft. broad. Absolutely no means existed for ventilating or lighting the cell except by way of the door, which was kept constantly closed, while the walls and roof being of solid stone and lime, in the form of concrete, prevented all possible percolation of air. Here the prisoners took food, slept, and performed all the natural excretory functions; no latrines existed. On March 15th at 4 P.M. the temperature of Zanzibar, as noted by the Indian Government meteorologist, was as follows:—In the sun the black bulb registered 149° F.; in the shade the temperature was 89·4°, the barometer standing at 29·98. This day at about 3.30 P.M. I was requested by Sir John Kirk to inspect the body of one of the prisoners, who was reported to have died suddenly in prison, and report as to the cause of death. On my arrival I found two of the Mombassa gang (Cases 1 and 2) dead. The condition of the cell from which these bodies had to be removed was shocking, and almost surpasses description. The entire absence of any ventilation, the extreme heat, the overcrowding of the prisoners, the effluvium arising from their excretions and from the damp and dirty walls, had produced an atmosphere so foul and pestilential that it was difficult to understand how life could possibly be sustained by it. On arriving at the cell I made three attempts to enter, but succeeded only in penetrating a few yards; the intense heat and foul atmosphere were too much for me, and I was compelled to retire and have the bodies brought into the open air for examination. When the cell door was first opened a rush of steaming, superheated, and horribly smelling air escaped like steam from a heated boiler. It was so saturated with aqueous vapour as almost to equal in density the air of a London fog, and spectacles were at once dimmed and rendered useless by it. The heat of the cell was intense; estimating it roughly, I should say certainly not less than 115° to 120°, and probably much higher. The stench was exceedingly foul and horrible, an indescribable odour peculiar to the place, and unlike any I had previously experienced or conceived possible. Huddled together on the floor of this vile den were the unfortunate prisoners, their skins reeking with perspiration, and their parched lips crying out, "Magi! magi!" ("Water! water!"). Many of them were very ill and feverish, totally uncared-for, and barbarously treated by their Arab gaolers.

After inspecting the bodies and noting down the post-mortem appearances, which were those indicative of death from asphyxia, and having unavailingly remonstrated with the Arab governor, urging him at once to remove the remaining prisoners from the cell, I hastened to report what I had seen to the Consul-General, Sir John Kirk, who at once accompanied me to the fort. This time, however, we were refused admittance, and it was only after Sir John had procured a special order from the Sultan that we were allowed to enter. We then found that during my short absence the doors had again been closed on the wretched prisoners, and on being opened another inmate of the cell, Case 3, whose name and history seemed unknown to the gaolers, was brought out comatose, in a dying condition; the body temperature was 106°, and the pulse and respiration almost stopped. The veins of the neck, face, and eyes were intensely congested, the symptoms presented closely coinciding with those already observed in the bodies of the two previous cases. He was evidently suffering from heat fever ("heat apoplexy"), due to the excessive heat and foulness of the atmosphere of the den from which he had been removed. A few minutes' artificial respiration, aided by two drachms of brandy administered hypodermically, soon caused the pulse and respiration to increase in force, frequency, and regularity. As it was certain he would receive no help or attention from the Sultan's officials, Sir John Kirk ordered him to be removed to my house for treatment, and here at one time he was so far revived that hopes were entertained of his recovery; but a relapse occurring, he died exhausted by the severity of the shock to which he had been exposed.

The following is an account of these cases as they were presented to me:—

CASE 1.—A man aged about thirty. When seen at 4 P.M. he had probably been dead from two to three hours. He appeared to have been taken ill about 1.30 P.M., when his comrades say he cried out and fell on the prison floor, foaming at the mouth. His arms and legs were seen to twitch violently for a short period; but soon ceasing, he lay quietly on the floor, so that he was thought to be asleep. A comrade examined him about 3 P.M., and found him dead; notice being given at the consulate, I was sent to examine the body. When the body was removed from the cell it was noticed that urine and fæces had been passed before death, probably during the convulsive seizure. There were no marks of external violence anywhere apparent, but there was intense venous congestion of the conjunctivæ, lips, and gums. The cervical veins were also engorged and distended, and a frothy foam escaped from the mouth. The body temperature was 107°. Rigor mortis had commenced in the lower jaw only.

CASE 2.—A man aged about thirty. When seen at 4.15 P.M. he had probably been dead about one hour. He appeared to have been ailing in the cell for some hours, and had complained of feeling ill to his fellow prisoners, who were said to have reported the fact to the gaoler, but no steps appear to have been taken in the matter till I arrived to examine the dead body of Case 1. Then this prisoner was reported t me as being very ill; he was at once re-

moved from the cell, and was then seen to be dead also. The natural appearances of the body were in all respects similar to those noted in Case 1, excepting that fæces and urine did not appear to have been voided. Thus there was intense lividity of the mucous membranes of the eyes, mouth, and lips; the cervical veins were turgid and distended; the lower jaw was wide open, and a frothy foam issued from the mouth; the pupils were contracted. Rigor mortis had not yet set in. Temperature of the body in the axilla was 107°. There were no external marks of violence anywhere apparent.

CASE 3.—A man aged about twenty-five was brought from the prison cell about 5.15 P.M., on my second visit to the prison, in a dying condition, having been seized with his illness in the interval which elapsed between my first and second visits to the cell. When brought out he was comatose; the pupils were contracted; frothy saliva was issuing from the mouth; the veins of the eyes, lips, mouth, and neck were intensely congested and engorged; pulse about 140, very small and flickering; respiration had almost ceased. He lay where he was placed like a log, perfectly motionless. Cold water dashed on face, chest, and abdomen, combined with artificial respiration, for a few minutes improved the respiration and lessened the lividity of the face and neck, and two drachms of brandy administered hypodermically soon caused a marked improvement in the pulse. The temperature in the axilla registered 106°. As it was certain he would receive no help or attention from the Sultan's officials, and there being no other place, Sir John Kirk ordered him to be at once carried to my house for treatment. When placed in bed a large ice-bag was applied to the head and back of the neck, and about half a pint of strong beef-tea with two ounces of brandy was introduced by the nasal tube into the stomach, where it was retained. At 7 P.M. the temperature still registered 106°; the pulse had increased in volume and was less quick. The lungs were perfectly clear and healthy. The nasal tube was again passed, and half an ounce more beef-tea, with twenty grains of quinine and two minims of croton oil, was administered; this also was retained. Ice was kept continuously applied to the head. As he lay on his back in bed, the eyes wide open and the pupils contracted, occasional slight twitching of the lips and arms were noticed; these extended to other parts, and increased in severity, so that at 1 P.M., when I was called up to see him, he was in a general epileptiform convulsion, and jerking the body so violently that it was difficult to keep him in bed. The eyes were wide open, and the globes jerked convulsively upwards and to the right; frothy saliva was issuing from the lips. The bowels had been opened, with copious watery evacuations, and the bladder emptied. The temperature in the axilla was 103°. Chloroform was cautiously administered, so as to produce complete anæsthesia, which was maintained for about fifteen minutes; this had the desired effect of completely arresting the convulsions, which did not return, only a few faint twitchings of the fingers, lips, and eyes being subsequently noticed. During the remainder of the night and next day he lay comatose and motionless in bed, breathing comfortably, the chief cause for anxiety being the exceedingly feeble action of the heart.—March 17th: During the day he lay in bed on his back, motionless; bowels opened thrice, and urine voided naturally. The pulse was still very feeble, but had improved in force and volume somewhat since the previous day. Temperature at 10 P.M. 102°; still fed by tube every four hours. Five grains of quinine were administered at night.—18th: Temperature at 10 A.M. 102°. He appeared weaker, although at times he seemed semi-conscious, and partially opened his mouth when the stomach tube was passed. At 4 P.M. the temperature was 104·4°; at 7 P.M. it was 105°; pulse very feeble; lungs healthy; skin hot and dry; tongue parched. Twenty grains of quinine were administered, with beef-tea and three ounces of brandy. At 11 P.M. the temperature was 106·2°. During the night the pulse became weaker and weaker, and he gradually sank, and died quietly at 3 A.M., the temperature in axilla after death being 106°.

Necropsy, four hours after death.—The head was first examined, and on removing the skull-cap, the venous sinuses of the brain and its membranes were seen to be intensely congested and engorged with fluid venous blood. The ventricles contained a few ounces of serum, but not in excess; no other pathological change was noted in the brain. The heart, left ventricle, was firmly contracted and empty; the right side and the large veins were distended with dark fluid blood, which, on escaping from the vessels, coagulated into a soft dark clot. The lungs were perfectly healthy, but very little congested. The kidneys were small, pale, and healthy. The spleen was small, dark in colour, normal. The liver and intestines were healthy. The muscles were well developed and of dark colour, and the body was healthy and well formed in all respects. Rigor mortis had set in in the lower jaw and arms only. Putrefaction had not commenced.

Remarks.—One of the most important and interesting features presented by these cases arose in connexion with the determination of the cause of death. Inspection of the bodies of Cases 1 and 2 afforded strong evidence that the ultimate cause of death had been asphyxia. In what way had this been induced? The fact that the patients were all members of the Mombassa gang, and had been in the prison only two or three days, raised a suspicion of foul play; but this was negatived by the absence of marks of violence on the bodies, by the testimony of their fellow prisoners, and by the absence of any history of a quarrel. The mode of onset of illness in Case 1 suggested death during an epileptic seizure, and with this the appearance of the body was quite consistent. A striking feature noticed on examining the bodies of Cases 1 and 2 was the excessively high body temperature, 107° being observed in each case; and this directed attention to the nervous system as being the one primarily at fault, for in cases of nerve lesion it is common to find a high post-mortem temperature, which, on the other hand, would be necessarily rare in cases of simple asphyxia. After seeing Case 3 the diagnosis at once became apparent, for in this case there could be no doubt that he was suffering from the effects of excessive heat, "heat apoplexy," producing complete coma and great depression of the cardiac and pulmonary functions. The term "heat apoplexy," as applied to such cases, is derived from the resemblance which the sudden onset and completeness of the coma bear to cases of ordinary apoplexy dependent upon diseased vessels. From it, however, it may readily be distinguished by the symmetry of the symptoms. The muscular paralysis is complete and general, not unilateral or localised to certain groups of muscles, as is common in ordinary apoplexies. Again, the pathology of the two diseases is entirely different, for although it is popularly believed that the symptoms of heat apoplexies are produced from an intense venous engorgement of the brain and its membranes, leading to an effusion of serum into the ventricles and meninges, yet this is not supported by the accounts of the post-mortem examinations of these cases; for, as a rule, as in Case 3, nothing beyond slight cerebral congestion can be found, the cerebral fluid is not in excess, nor are there any signs of pressure having been exerted on the brain. A more rational pathology is that at present taught in most hospital schools, that the symptoms result from the circulation of the over-heated blood through the cerebral vessels; as a result profound disturbances are set up in the nerve centres, and reflected thence to the vaso-motor nerves of the body generally, leading to increased production and retention of heat and hyperpyrexia. The changes thus induced in the nerve centres, and especially the respiratory, are at first those resulting from over-stimulation, rapidly followed by those indicative of exhaustion. The local and atmospheric conditions by which these prisoners were surrounded were exceedingly favourable for the development of heat fever. It is a well-known fact that in a dry atmosphere, where free evaporation and radiation of heat from the surface of the body are possible, the human body can bear with impunity very high degrees of heat, and the body temperature remains constant. If, however, radiation and evaporation be prevented by deficiency of ventilation, or by excess of moisture in the atmosphere, then exposure to a temperature but a few degrees above the normal will rapidly prove fatal, and a high body temperature will be developed. A point I have hitherto purposely avoided now comes for consideration: Were these the only fatal cases that occurred? Upon this point I have no positive information. With these cases alone I was concerned; but, judging from the miserable condition of those I saw in the cell and the filthy condition of the den in which they were incarcerated, I am inclined to think not; and the result of Sir John Kirk's inquiries consequent upon these disclosures as to the fearful state of the Sultan's prisons goes to show that deaths had been of daily occurrence, of which no notice was taken; and also that small-pox is endemic in the fort. The people, when removing these bodies, appeared

to be performing no unfamiliar task. Many prisoners in the cell looked extremely ill, but, being entirely under Arab jurisdiction, they might die or not without Europeans becoming acquainted with the fact. The strong representations made to the Sultan by Sir John Kirk immediately he became cognisant of the facts were so far successful that this and other dens of a like description were cleared the same evening, and orders were given to have windows placed in them for ventilating purposes. Such a remedy, however, can only be palliative. The cells are incapable of proper ventilation, and the only real and effective remedy to prevent the recurrence of such scandalous barbarities is to have the fort demolished and a proper prison built in its stead. This has been strongly but unavailingly urged upon the Sultan, and nothing short of a strong expression of public opinion, combined with firm diplomatic pressure, can avail to prevent the possibility of the constant recurrence of such horrible tragedies.

Zanzibar.

CASES OF SUNSTROKE WITH HIGH BODILY TEMPERATURE.

BY T. F. O'DWYER, M.D.,
SURGEON MAJOR, ARMY MEDICAL DEPARTMENT.

CASE 1.—Private W. T—— (Highlanders), walked to hospital on July 29th; he complained of dizziness in his head. His skin felt very hot; the pulse was quick and weak. He was stripped to the waist, and buckets of cold water were dashed over his head and back. He said he felt much better, and laughed at the idea of being carried upstairs on a stretcher. Before he arrived at the ward, however, he became insensible. His breathing was oppressed; carotids throbbed visibly; pulse weak and quick; pupils contracted; temperature, carefully taken in axilla, 110° F. He was at once stripped and placed in a bath, to which large pieces of ice had been added. An icebag was placed on his head and a large piece of ice was held to his neck and back of the head. A lump of ice was placed in his mouth to melt. After being ten minutes in the bath he became conscious and looked about him, but his pulse was very weak and flickering. A draught of aromatic spirits of ammonia was now administered. He was removed from the bath, when his temperature was found to be 105°. He became unconscious, and the temperature began to rise. He was again put into the cold bath, and in ten minutes the temperature of the body fell to 99·5°, and he became conscious. He was removed from the bath and an enema of sulphate of magnesia (B.P.) was administered cold. The temperature did not again rise and he made a rapid recovery, but remained weak and suffered from headache for some days.

CASE 2.—Private B—— (Highlanders) was brought to hospital on July 28th, 1883, in a state of insensibility. Pupils contracted; breathing oppressed; pulse feeble and rapid; temperature 109° in axilla. He was treated as in Case 1, but his pulse became so feeble after removal from the bath that fifteen minims of sulphuric ether were administered hypodermically, and he revived at once. Temperature fell after the bath to 100·6°, and did not rise afterwards. He made a quick recovery.

CASE 3.—Private —— (Highlanders), employed in the regimental transport and much exposed to the sun, was brought to hospital on July 28th, insensible. Temperature in axilla 108°; pupils contracted; heart's action weak. This patient was treated as Cases 1 and 2. Temperature reduced to 101° by the cold bath, after which his pulse was so weak that he required half an ounce of brandy and two drachms of aromatic spirit of ammonia, repeated at short intervals for three doses. He made a good recovery. These cases are typical of some that took place about the same time, and are remarkable for the high bodily temperature, the feeble condition of the heart from the same cause, and the satisfactory termination in every instance, as we were able to deal with them at once. All took place at a time when the sun's rays were very powerful, and when cholera prevailed at Cairo.

Citadel Station Hospital, Cairo, Aug. 1883.

THE annual prize festival in connexion with the Royal Normal College for the Blind, Upper Norwood, was held at the Crystal Palace on the 19th inst.

LITHOTRITY AFTER BIGELOW'S METHOD.

BY C. R. GRAHAM, L.R.C.P. ED., M.R.C.S.,
HON. MEDICAL OFFICER, ROYAL ALBERT EDWARD INFIRMARY, WIGAN.

MR. C——, aged sixty-two, an architect, of active and temperate habits, came under my care in private, in October, 1883. Eight years ago he passed a large quantity of minute calculi, some of the largest being about the size of a small pea. Ever since he has been troubled with frequent micturition, pain in the penis, and retention, having occasionally to seek relief from catheterisation. It was on account of this last symptom that I was at first summoned. At a subsequent examination I sounded him, detected several calculi, and also found that the prostate was enlarged, particularly the middle lobe, the sound winding to the left side immediately before passing into the bladder. This caused a little difficulty in passing the lithotrite. The urine contained a small quantity of albumen, and there was an abundant deposit of muco-pus. Operation was recommended, but the patient delayed it on account of some business engagements. In the meantime, however, he had several attacks of cystitis, causing him intense suffering and preventing sleep. His general health began to fail, and in December he was only too glad to seek relief. For a fortnight before the operation I kept the patient in-doors, and for a week prior, finding that there was a certain amount of residual urine, I passed a catheter daily. This treatment produced a marked improvement in his condition. Three days before operation the patient was confined to bed. On Dec. 20th the operation was performed; it lasted an hour and a quarter. The largest calculus was about the size of an almond. A medium-sized, non-fenestrated lithotrite was used, a No. 16 evacuator. $CbCl_2$ was at first administered, and anæsthesia was kept up with ether. After the operation there was no reaction, and the patient suffered very little pain. About an ounce of bloody urine was passed every hour for the first day; this gradually became clear, and micturition less frequent. On the second day after operation the urine became purulent, and the bladder was washed out daily for a week, at first with a weak solution of boracic acid, afterwards of nitric acid. The urine was especially bad on the third day, and an ounce of the decoction of couch-grass was ordered every four hours. A small quantity of detritus came away the first few days, when the bladder was injected. On the eighth day there was no pus in the urine, and the quantity passed in twenty-four hours varied from two to four pints. After this time he was practically well. He got up on the thirteenth day. With regard to diet, the first week it consisted of milk and barley water, after which he took solid food. Owing to the enlarged prostate I directed him to pass a catheter daily so that the bladder might be properly emptied, and this he continues to do. He is now, four months after the operation, in perfect health, has gained flesh, and follows his usual work. The detritus weighed between four and five drachms. The stones consisted of phosphates, with small uric acid nuclei about the size of a lentil. Of these there were four.

Wigan.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nullaautem estalia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

CASE OF CONICAL CORNEA OF BOTH EYES.

(Under the care of Mr. C. HIGGENS.)

FOR the following notes we are indebted to Mr. C. Y. Shuter, dresser in the eye wards:—

Caroline J——, aged eighteen, was admitted on March 3rd, 1884. Three years ago she first noticed that her sight was failing, both for near and distant objects; the vision got gradually worse up to the time of admission.

On admission there was well-marked conical cornea in

both eyes, the right being the worse. The right eye could not read any letters with or without a lens; the left eye could read large type (Jaeger 19) at ten inches. On the day of admission (the pupil being well contracted by eserine, which had been used for two days previously), the patient having been anæsthetised, a small elliptical portion of the right cornea, including the whole thickness, was excised from the apex of the cone; the eyelids of both eyes were closed by strapping and covered with a wet pad and bandage.

On March 10th, or one week after the operation, the eye was examined for the first time; the wound had healed, and the pupil was circular.

On April 28th the left eye was operated on and treated in the same manner as the right. A week later the aqueous was retained, and the pupil was circular.

On May 12th the wound had probably reopened, and an anterior synechia had formed; a four-grain solution of sulphate of atropine was ordered to be used three times a day, in the hope that its action might detach the adhesion. On the 16th the adhesion had stretched, but had not given way; atropine was then used six times a day.

On June 6th, the atropine having had no further effect upon the anterior synechia, it was discontinued. In each eye there was a small central corneal opacity, together with the synechia in the left. The right cornea was still rather conical, the curvature in the left to the naked eye looked about normal. The left eye could read Jaeger No. 2 at twelve inches, and had vision for distance = $\frac{6}{12}$, without assistance. The right eye could read Jaeger No. 16 at eight inches, and had vision for distance = $\frac{6}{9}$. It was not improved by lenses.

YORK COUNTY HOSPITAL.

SIX CASES OF EXCISION OF THE KNEE-JOINT.

(Under the care of Mr. JALLAND.)

FOR the following notes we are indebted to Mr. A. Jefferson, house-surgeon.

CASE 1. *Synovitis following a Fall; Abscess; Rest in bed for eighteen months; Excision; Recovery with good Limb.*—J. M——, a boy aged eight. The parents stated that when he was four years old he fell and injured his knee. The joint was not at once very painful, but a few weeks after the accident it began to swell and to be very tender. Gradually it got worse, the boy being confined to bed. At length an abscess opened at the inner side of the joint, and after discharging for some months it healed up. The swelling of the joint and the concomitant pain had by this time disappeared, and he was able to get up and move about on crutches, having been confined to bed about eighteen months. There was now much deformity on the affected side, and the child had to use the crutches always. On admission he walked with his diseased limb twisted round the back of his crutch, the knee being drawn up on the inner side and the foot twisting round to the outer, the toes being about three inches off the ground. The muscles on this side were somewhat atrophied, the tibia was dislocated backwards and rotated inwards, and there was a large cicatrix at the inner and back part of the joint, with slight movement. The patient being fairly healthy, the knee was excised on March 14th, with antiseptic precautions. The limb having been exsanguinated and a tourniquet applied, the usual semilunar incision in front of the joint was made; the patella, being firmly adherent to the anterior surface of the lower end of the femur, was treated as part of that bone. Before the limb could be got straight half an inch of bone had to be removed from the lower end of the femur and the same amount from the tibia. The pieces were taken away wedge-wise, with the base of the wedge forward, the cut surfaces were brought in apposition, and the straight limb was placed on a back-splint, interrupted at the knee-joint by a large quadrilateral iron bracket, sufficiently broad transversely to allow of a thick bandage being passed between it and the knee. This splint was provided with a foot-piece, and it extended as high as the gluteal fold; the padding of it, except the foot-piece, was covered with a strip of carbolised bees-wax bandage. Similar bandaging was employed in the turns taken round the limb and splint immediately above and below the excised joint, the rest of the bandaging being done with plaster-of-Paris bandages, which were continued on as a spica round the pelvis, and strengthened opposite the hip-joint with strips of saturated house-flannel. A pad of salicylic silk, with the usual gauze dressing, was applied to the wound. On the day after the operation the wound was dressed. On the evening of the same day the temperature was 100·4°. On the following day the evening temperature was 99·8°. After this at no time did the temperature rise higher than 99·6°. A week after the operation the wound was again dressed; there was scarcely a trace of pus, and the drainage-tube was removed. The next dressing was applied three weeks after the operation, when the wound was found to be quite healed and firm, except at its extremities. Finally, four weeks after the operation the antiseptics were discontinued, and the limb was taken for the first time off the splint, being apparently quite firm to moderate pressure. It was put up in plaster from above the ankle upwards, round the pelvis, a "window" being left over the wound. On the following day the patient got up, having been in bed exactly four weeks. For two weeks this plaster splint was kept on; it was then removed, and the joint found to be quite firm. A short plaster splint, extending a few inches above and below the joint, was then applied and the patient, being provided with a thick-soled boot, was allowed to put a little pressure on his leg. In another week he left the hospital and returned home. At the end of a month the boy presented himself for inspection; he could then put all his weight on the leg and walk about the house without his crutches. The splint was now taken off, and his father was told to at once bring him to the hospital should any pain in the wound return. Some months afterwards, a patient living in the same village as the boy stated that he was running about "like the rest."

CASE 2. *Chronic Synovitis; Persistent Pyrexia and Emaciation; Excision; Rapid Subsidence of Constitutional Symptoms, and Recovery with good Limb.*—M. F— , a female aged twenty-two. The patient had been under observation at the hospital about six months. When first seen her left knee-joint was slightly flexed and swollen, and was evidently in a somewhat early stage of femoral fungous synovitis. Under ether the joint was straightened and put up in plaster. The pain having subsided, she was sent home, under strict injunctions not to put her foot to the ground. Finally she went to the seaside, and there took her splint off. Although not putting her foot to the ground, the pain gradually returned in all its acuteness, the swelling increased, and she again applied at the hospital nine months from the time she was first seen. On admission she was much exhausted and emaciated, having had constant pain and sleepless nights. The condition of the joint was serious; it was much swollen, exceedingly hot, tender, and painful, with frequent jumping, which rendered sleep impossible. There was also pyrexia, her temperature rising three and sometimes four degrees above normal at night. She had also prolonged expiration and occasional rhonchus at the right apex. After about a fortnight's treatment, the joint was excised on July 18th, 1882. The operation was performed in exactly the same way as the preceding, except that the patella was removed; the cartilage on the outer condyle of the femur and tibia was much eroded. A similar splint and dressing was applied as in the preceding case. On the following day the patient expressed herself as feeling much relieved. She had had a good night, and there was very little pain in the wound; a little blood having oozed out, it was dressed. In the evening the temperature was 100·4°. For the next eight days the wound was dressed daily. For seven days after the operation the evening temperature ranged from 100·4° to 101·6°, being only a little above normal in the mornings; afterwards the temperature never rose above 99·2°. On the fourteenth day the wound was again dressed and the drainage-tube removed; it was now left until the thirty-fourth day after the operation, when it was again dressed, and found to be quite healed, except at one extremity. On the forty-first day the antiseptic dressing was discontinued; the limb was taken off its splint for the first time and put up in plaster as in the preceding case. On the following day the patient returned to her crutches, it being exactly six weeks after the operation. Being much improved in general health she now got on rapidly. At the expiration of eight weeks the plaster was taken off and a short gutta-percha splint applied. The wound was quite firm and she was sent to the seaside. For two months longer she wore a laced-up splint. At the end of this time she could walk quite well without any support; it was now four months since the operation. When last seen she had left off her splint and was working at a confectioner's.

CASE 3. *Acute Fungous Synovitis; Great Pain in Joint; Pyrexia and Lung Symptoms; Excision; Recovery with good Limb.*—M. S——, a female aged twenty-four, pre-

sented herself in May, 1882, suffering from intense pain in the right knee-joint, which had commenced to be painful and then to swell six weeks before. The pain and jumping in the joint prevented sleep. She had been in bed for three weeks. On examination she was found to have a much enlarged and exceedingly tender joint, evidently the seat of a fungous synovitis. There was considerable pyrexia; a temperature of over 99° in the morning and between 101·5° and 102·5° in the evening. For a fortnight after her admission, notwithstanding the local application of ice with rest and general treatment, the temperature continued high; it then began to subside, and for the following month remained fairly normal, with only occasional nocturnal jumps. The pain, however, remained constant and the fungous proliferation increased; at the same time crepitation appeared at the apex of the left lung, together with night-sweats, both of which were absent on her admission. Under these circumstances it was resolved to excise the joint. This was done on June 13th, 1882, in a manner similar to that in the last case. There was on the external tuberosity of the tibia a portion of cartilage, eroded, the size of a two-shilling piece. On the day after the operation the wound was dressed; the patient expressed herself as feeling less pain than before; in the evening her temperature was 100°. Henceforth only on three occasions did it rise above 99°, and of these three the highest temperature was 100·2° only. The wound was again dressed on the following day; it was then left until the ninth day after the operation, when it was dressed and the drainage-tube taken out; the next dressing was applied on the twenty-first day after the operation, the wound, except, at the two extremities, being healed. Finally, twenty-seven days after the excision the antiseptics were discontinued, the limb, for the first time, taken off the splint and a plaster splint applied, as in the preceding cases. The next day she got up and moved about on crutches, it being exactly four weeks since the operation. The further progress of the case was almost the same as in the preceding. The patient is now earning her own living, her lung symptoms having quite disappeared.

CASE 4. *Chronic Synovitis; Joint opened, and Fungating Synovial Membrane removed; Persistence of Symptoms; Excision; Suppuration of Wound; ultimate Recovery with good Limb.*—S. M——, a female aged fourteen, was admitted early in March, 1882. She had a bad family history. Her present illness had commenced three years ago with pain and swelling in the right knee-joint. On examination this joint was found to be much swollen and very tender. She had great pain in it, much aggravated for the last three months, during which time she had emaciated somewhat. There was no jumping of the joint. The patient's nocturnal temperature varied from 101° to 102°. After she had been under treatment about a week the pain had increased, as also had the swelling; the skin over the joint, too, became red, and mixed with the boggy semi-fluctuation of the proliferant synovial membrane appeared some true fluid fluctuation. It was resolved to open the joint to examine it and let the fluid out; accordingly, on March 21st, two longitudinal incisions were made, one on each side of the joint, and so placed that they could, if necessary, be run one into the other, as an excision flap. Through these incisions about half an ounce of pus escaped. The cartilages being apparently sound, as much of the fungous membrane was taken away as could be got at, and the joint was thoroughly syringed out; the limb was then put up in a similar way as in the former cases. The temperature still remained as high as before, and the joint after a few days began to jump. As the pain got worse, excision was performed under the carbolised spray three weeks after the joint had been opened. There was found to be a good deal of erosion of cartilage and a very large quantity of fungous membrane, which was sliced off. The limb was put up as before. On the following day the patient said she had less pain; the evening temperature was 101·8°. After this only once was 101° exceeded. For the next eight days the wound was dressed every other day; the discharge then increased and the dressings were applied daily. Finally, eighteen days after the operation, the wound was no longer aseptic. Pus also had run up the splint; a fresh one was therefore put on, ether being given. From this time the discharge continued with great profusion, a counter-opening having to be made into the popliteal space. The wound healed but slowly, there being many obstinate sinuses in the course of the line of incision. Gradually, however, firmness was acquired and the discharge lessened, syringing with dilute red wash and the application of a Martin's bandage outside the ordinary dressings being employed; the splint had to be frequently changed. About four months after the operation there was considerable firmness of the bones. The discharge from the popliteal opening continuing, and the sinuses in front not being healed, a plaster splint could not be applied, so the patient was kept in bed. It was not until six months after the operation that the popliteal sinus closed; the limb was now put up in plaster, the wound being syringed and dressed through a window in the splint, the patient being allowed to get about on crutches. In the following spring she went to the seaside, a year having elapsed since the operation. On her return at the end of a month she could bear a certain amount of weight on the foot, the sinuses now discharged but little. The long splint was taken off and a short, laced-up, gutta-percha one applied. Finally, fifteen months after the operation she could walk; she was then at a charity school and her sinuses were still discharging, though but little. Since then she had been heard of and was said to be walking about quite well.

CASE 5. *Synovitis following a Fall; Excision; Vomiting; Albuminuria; Coma; Death; Acute Nephritis.*—T. W——, a male aged three, was brought to the hospital in Nov. 1882. His right knee-joint had been swollen and painful for six months. His family history was good, and the joint affection was apparently the result of a fall. On admission the child was found to be suffering from fungous synovitis of the joint; he was evidently suffering much pain, and his sleep was greatly disturbed by jumping of the limb. Extension was applied, together with ice, &c., but his condition did not improve; his temperature remained high, and he got thinner. After a month's treatment, his symptoms being worse, excision was performed on Dec. 6th, 1882. The tibial cartilages were much eroded. The operation was carried out as in the preceding cases, and the dressings, &c., were the same. On the day after the operation the patient volunteered the statement that he was much better. The wound was then dressed. The evening temperature was 100·4°. Seven days after the operation the wound was again dressed, for the purpose of getting out the drainage-tube; there was found to be scarcely any pus. On the eleventh day after the operation the evening temperature was 102·6°, the highest previous temperature being 100·4°. On the following day the wound was dressed; it appeared quite healthy, and was healing well, there being but very little discharge on the dressings; in the evening the temperature was normal. On the two succeeding nights the temperature was also normal. It then rose again, and on the fifteenth and sixteenth nights after the operation it reached 101·8° and 102·4° respectively. No cause for this rise could be detected; the child did not complain of any pain in the wound—indeed, ever since the operation he had had comparatively no pain in it. For the next six days the evening temperature was lower, 100·4° being the highest, but the child was looking pale, although he complained of nothing. The wound was now dressed for the fourth time after the operation; it had healed nearly entirely, and the cicatrix was firm; the excised part could be moved laterally on the splint without giving rise to pain. On the evening of this day, the twenty-third after the operation, his temperature was 101°, and he began to vomit; his urine contained albumen, but no blood or carbolic; the vomiting continued, notwithstanding treatment, and on the twenty-fifth night after the operation his temperature was 102·6°. For two more days the vomiting and temperature persisted, and the amount of albumen in the urine increased up to nearly one-half; there was a trace of blood, but never any carbolic. Finally, on the twenty-eighth day after the operation, his temperature became subnormal, 97·2°; he was semi-comatose, and early on the following morning he had a convulsion and died. A post-mortem examination could not be obtained, but it appears evident that the child died of acute nephritis, probably induced by chill at the time of one of the dressings (before the operation there was no trace of any albumen in the urine), and evidently increased at the time of the last dressing. It is impossible to say when the disease really started, as the child complained of no subjective symptoms until the nausea began, and the urine was not examined for three weeks—viz., from before the operation until the evening after the last dressing.

CASE 6. *Chronic Synovitis following a Blow with a Cricket-Ball; Excision and Suppuration of Joint; Amputation eight months after Excision; Recovery.*—E. B——, male

aged thirty-four, came to the hospital in May, 1882. As in the preceding cases, his knee was the seat of a fungous synovitis, the left joint being the affected one. The previous history of the disease was that eight years before his admission he had been struck on the left knee by a cricket-ball. For a few days after there were swelling, pain, and lameness. These symptoms recurred during the ensuing six years with more or less frequency, there being intervals in which there was entire cessation of pain and entire disappearance of the swelling. Two years before his coming to the hospital, however, the joint appeared to get worse; it became swollen and the swelling persisted. The pain also increased, and for the last six months had been almost continuous. On admission there was much pulpy swelling of the joint, together with grating, as of eroded cartilages. Having had the patient under observation about two weeks, in which period pain, pyrexia, and sleeplessness were constant, it was resolved, the patient's lungs and kidneys being apparently healthy, to perform excision. This was done on June 20th. A good thickness of bone had to be removed, the cartilage, being completely absorbed and much of the underlying bone carious. The operation, &c. was conducted in the same manner as in the preceding cases. For a few days after the excision had been performed the patient expressed himself as being much improved; his nocturnal temperatures were, however, high—102° to 103°—and the wound had to be dressed daily, there being at first a good deal of hæmorrhagic oozing and afterwards much pus. At the end of about ten days the patient began to have a good deal of pain, which necessitated the hypodermic use of morphia; the discharge further increased, and at the end of the third week the wound was no longer aseptic. The splint was now changed, ether being administered, and was replaced by a fresh one. The wound, which had healed in front, was dressed with carbolic water dressing. In about another three weeks the discharge had lessened and a fairly firm cicatrix had formed, intersected, however, by numerous sinuses. The splint was now again changed, and a thick bees wax apparatus adjusted. This was done under ether, and the joint appeared fairly firm. The wound was now dressed with red wash, the sinuses irrigated with weak carbolised red wash, and elastic pressure kept up by means of a Martin's bandage over the dressings. The patient now began to improve. His morning temperatures were always normal, and his evening temperature only one or two degrees above normal. At the end of the eleventh week he had so far improved, and the discharge had so much lessened, that his splint was taken off and a plaster one applied from above his ankle below to his pelvis above, a window being cut over the wound. This was done without anæsthesia, and, so far as it was deemed expedient to test, the union of the bones was perfect. In his plaster splint the patient expressed himself as being much more comfortable, and after he had had it on for a week he was moved from his bed to a couch in the ward; and, this causing him no pain, after a few days he was allowed to get about on crutches. After walking about some ten days he received a jar in the affected limb from the slipping of his crutch, and at once there was a return of the former pain. He was again confined to his bed, his evening temperature once more rose to two or three degrees above normal, and an increase in the discharge took place. Henceforth he remained in bed, suffering at times much pain; occasionally the discharge decreased, the sinuses appeared to be healing up, and the pain and pyrexia almost left him, but these hopeful symptoms never lasted more than a week or ten days together. At length, eight months after the excision, the patient himself wishing to get rid of the limb, and there being apparently no hope of its ever being of any use to him, Mr. Jalland amputated through the thigh. On examining the excised ends of the bone they were found to be united together by ossified patches, while between these patches wandered carious discharging sinuses; what adhesions there were were not firm, but broke down readily under the handle of the scalpel; and on the exertion of only a slight amount of force, the soft parts being cut through, the ends of the bones were bent apart. After the amputation the patient made an excellent recovery, and soon returned to his work as a carpet-maker.

Remarks.—The above cases show that if, in the treatment of excised knees, almost absolute rest be given to the wound, healing will be rapid and the patient able to leave his bed at the end of a few weeks. In all the six patients the affected limb was put on the splint with plaster spica, as described in the case of J. M—— (Case 1). It will be noticed that only in the two patients, S. M—— (Case 4), and E. B—— (Case 6), was it necessary to change this splint, the close packing of salicylic wool saturated with carbolised wax between the limb and the splint, together with the waxed bandages, effectually prevented the discharges on the one hand from running up or down the leg, and on the other from soaking into the splint, the waxed surface at once turning off the fluids into the dressings. The number of antiseptic dressings applied is also noteworthy. In the first case only three dressings were put on; in the second the wound was dressed daily for eight days, after which it was only dressed twice; in the third it was only necessary to renew the dressings four times; and in the fifth the wound was dressed four times in twenty-eight days, at the end of which time the patient died. This infrequency of dressing was, no doubt, in great measure due to the absorbent salicylic silk used as a thickish pad next the wound. In the two remaining cases, Cases 4 and 6, dressings were applied almost daily for eighteen and twenty-one days respectively, after which their wounds became septic. In Case 4 the joint had contained pus, and had been washed out three weeks before it was excised. The antiseptics were therefore much handicapped. Practically, failure to keep the wound aseptic may be said only to have occurred in Case 6. With regard to the times of application of these dressings, it may be remarked that they were not renewed on each occurrence of oozing; such a procedure by which a wound may be disturbed many times in the twenty-four hours, not only causes much pain to the patient, but seems to be disregardful of the great principle of rest in the treatment of wounds. Instead, therefore, of each appearance of discharge through the dressings being followed by a change of dressings, the area of penetrating fluid was immediately covered with a pad of salicylic silk bound on with a gauze bandage. The splints not having to be taken off and the wounds not being disturbed often by change of dressings in each of the first three cases recorded, healing took place, and the patients were able to leave their beds and go about on crutches, four weeks, six weeks, and four weeks respectively, after the operation. In some of the patients the temperature was lower after the operation than before, and in most the pain was afterwards decidedly less, although excision should never be performed until a very patient trial has been given to perfect rest in acute cases, or in exacerbations in the form of rest on a back splint, with the addition of the local application of ice; in more chronic conditions (the joint having been, if necessary, straightened) in the shape of plaster-of-Paris splint, with crutches and a sling for the leg. Still, should the disease persist in being aggressive, and the consequent exhaustion, with its tendency to phthisis and its receptivity to tubercle, ensue, one should not hesitate to excise, for there appears to be every reason for us to regard the result of such excision hopefully. In two of the cases the chest symptoms entirely disappeared after excision.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

A MEETING of the above Society was held on Wednesday, July 2nd, Dr. Henry Gervis, President, in the chair.

The following specimens were shown:—Phosphatic Calculus which caused a Vesico-vaginal Fistula, by Dr. Godson; Transfusion Apparatus, by Dr. Walter (Manchester); Double Uterus with Single Cervix, and a deciduous substance expelled after labour for the fifth time, by Dr. Cleveland; Pedunculated Fibroid removed from a Prolapsed Uterus, by Dr. William Duncan. A report of the committee on Dr. Neugebauer's specimens of Spondylolisthesis was read. The committee consider that the specimens bear out Dr. Neugebauer's views, which are essentially that the anterior half of the vertebra (typically the fifth lumbar) glides away from the posterior half owing to congenital deficiency or fracture. Such predisposing causes may not result in spondylolisthesis without the operation of overweighting. Dr. Neugebauer states that Professor Lambl has withdrawn his theory of hydrorachis as a cause of spondylolisthesis. Mr. Noble Smith's appendix to the report was read; he describes specimens showing caries as probably a consequence of displacement.

The following papers were read:—

On Fibro-cystic Myoma of Uterus—Septicæmia, by Dr. H. A. LEDIARD (Carlisle).—The symptoms dated twelve months back, and included pain, bleeding, vomiting, and anæmia. The tumour felt cystic in parts and a bruit was heard over it. It reached two inches and a half above the navel. Afterwards diarrhœa set in, and the temperature rose. After an examination by the sound severe symptoms began, including the usual signs of peritonitis, and death occurred on the ninth day. The tumour grew chiefly from the posterior wall, and was partly cystic, as were both ovaries. The kidneys contained miliary abscesses. The spleen was enlarged and soft, containing several recent infarcts. Liver fatty. Lungs œdematous and congested. No trace of peritonitis was found, but no examination of the veins was made. The uterine mucous membrane was nowhere abraded. The case was brought forward chiefly to ascertain the opinion of the Society as to the cause of death.—The PRESIDENT said that Dr. Lediard was not singular in his experience. A small abrasion was sometimes fatal.

Note on the Condition observed in the Navel Cord of a Young Infant, by Dr. JOHN WILLIAMS.—The cord at birth appeared natural. On the second day the distal two inches had dried, while the proximal inch was succulent as at birth. In the next few days it broke down and became stinking. There was some bleeding on the fifth day; the cord did not fall off till the ninth day, when it left a somewhat conical stump with an ash-grey surface and a small red central depression. A thin sheath sloughed off the stump. Sir J. Paget, who saw the child, advised its removal (if it remained) by ligature, as in the case of common wart of the umbilicus. It disappeared altogether on the fourteenth day. The early appearance of the wart was remarkable; it had not been observed before the eighth day.—Remarks were made by the PRESIDENT, Drs. EDIS, WILLIAMS, and HERMAN.

Note on the Involution of the Puerperal Uterus in the absence of the Ovaries, by Dr. JOHN WILLIAMS.—The patient had had her left ovary removed in 1879, and her right was removed during labour in 1883 for cystic disease. Recovery was uninterrupted. The involution was decidedly delayed, and on the twenty-eighth day it was still above the brim; the sound passed four inches. Seven weeks after delivery the uterus was of the size usual in the fourth week. Seven months after delivery it was smaller than the virgin organ, sharply anteflexed, and the cavity was only two inches long. In this case the immediate effect of removal of the ovaries was retardation of involution, but the changes in the peritoneum caused by ovariotomy must be remembered. The ultimate result was exaggeration of the uterine involution, like senile atrophy. The PRESIDENT endorsed Dr. Williams's view of the case.—Dr. CARTER remarked on the rarity of super-involution. There exists, without doubt, a condition of atrophy of the ovaries in such cases, and their removal produced the effect which he should have expected.

On Fœtal Extensions or Retroflexions during Pregnancy, by Drs. MATTHEWS DUNCAN and HURRY.—The authors have collected all examples of extension of the limbs or body of the fœtus occurring during pregnancy, and have tried to throw light on their causation. These extensions may be of a leg, or of both legs, or of the whole body. They may be caused by malformation, goitre, amniotic bands, exomphalos, shortness of cord, and morbid conditions of the mother.—The PRESIDENT remarked on the special value of the paper as throwing light on some of the causes of face presentations.—Dr. CHAMPNEYS said that the only variety he had himself observed was the "siége décomplété" (Lefour). In this, when primary, the legs after birth at once resume the fœtal attitude and fly up over the shoulders in a most striking manner.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AT the ordinary meeting of this Society, held on June 7th, Dr. Thudichum, President, in the chair,

Dr. H. CAMPBELL POPE read a case of Littré's Operation of Inguinal Colotomy for Congenital Deficiency of Rectum. The child when first seen, two days after birth, was vomiting a greenish-coloured watery fluid; it was dusky in appearance. The abdomen was immensely distended with flatus, especially in the course of the colon. On examination per anum the finger entered a cul-de-sac about one inch in depth, and of the ordinary calibre of an infant's bowel. No upper sac or protrusion could be felt, but when the child strained a general bulging could be distinguished. Fifty hours after birth a trocar was passed from the extremity of the cul-de-sac into the pelvis in the usual direction of the rectum. This proceeding was followed by the escape of about two drachms of straw-coloured odourless fluid, and on introducing the trocar still further a little meconium escaped. As the fluid was apparently from the peritoneal cavity, it was decided to open the sigmoid flexure of the colon after Littré's method. An incision about an inch and a half in length was made above and parallel to Poupart's ligament, and on opening the peritoneal cavity six drachms of straw-coloured fluid escaped. The large bowel was seen to end in a free floating extremity. It was opened by an incision in its long axis and fastened to the external opening by four sutures. No further vomiting occurred after the operation. The child did well for the first fortnight and the wound healed; but after this time the gut began to evert, and a large portion, three inches long, became constricted and ultimately sloughed off. This process again recurred and a further portion, two inches in length, sloughed off. After this the progress was entirely satisfactory, and twelve months after birth a perfect artificial anus, capable of retaining fæces, resulted. Ultimately, the child died of hæmorrhagic measles when thirteen months old. Dr. Pope recommended in cases where the bowel could not be satisfactorily reached from the anal cul-de-sac that an exploratory abdominal incision should be made (as for inguinal colotomy) and the end of the bowel examined. If feasible, it should be brought down to the anal cul-de-sac and fastened to it, an incision having been made in the upper extremity of the cul-de-sac. If this could not be done, Littré's operation might be concluded.—Dr. TRAVERS did not advocate the use of the trocar but careful dissection from the anus, keeping close to the sacrum. Where the gut could not be reached thus, he would perform Littré's operation.—Dr. THUDICHUM agreed with the suggestion as to an exploratory abdominal incision.—Dr. ALDERSON had a case in which, after a prolonged operation from the anus, the child died from collapse two hours after.—Dr. POPE, in reply, agreed with avoiding the use of the trocar, and condemned very prolonged operations from the anus.

Surgeon-Major T. H. HENDLEY read a paper on the Van Ryselberghe Meteorograph, which had been installed under his superintendence in the meteorological observatory of H. H. the Maharajah of Jeepore, in India. In reply to Dr. Thudichum, Surgeon-Major Hendley said that there was a special department in India under Mr. Blandford, F.R.S., meteorological reporter to the Government of India. The relation of meteorology to medicine was not lost sight of, but it would of course require time and labour to obtain valuable results.

Dr. KILNER read a paper on Peripheral Lesions as the Exciting Cause of Chorea. Seven cases were quoted in support of the theory. The lesions in these cases being due to rheumatism, dentition, ovarian and uterine disease, masturbation in the male, and various causes in one case. Afterwards it was stated that it was extremely probable that in nearly every instance an exciting peripheral lesion could be found as well as a central derangement. For shortness' sake, the central derangement, whatever it may be, was called hyperkinesis, and the peripheral lesion the excitor. It was considered that if the hyperkinesis was not very great the excitor must necessarily be powerful; on the other hand, if the hyperkinesis be intense the excitor need only be mild; and when both the hyperkinesis and the excitor were intense a severe attack of chorea may be expected. It is also extremely unlikely that the hyperkinesis of itself produces chorea, because before it becomes sufficiently great to cause an attack an excitor will arise, as the system can hardly be considered in a perfect state of health, but this excitor may be so slight as to be easily overlooked. In one of the cases quoted the natural functions of menstruation was sufficient to determine an attack.—Dr. THUDICHUM said the commonest cause of irritability was some chemical change in the nervous system.

Mr. H. H. TAYLOR showed Two Kidneys affected with Cystic Disease. They each weighed about four pounds. They consisted of congeries of cysts, varying from the size of a marble to an orange. None of the cysts were within other cysts. They contained, some a clear fluid, others milky, some dark but clear, others dark and thick. No renal tissue could be found.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE annual meeting of the Medico-Psychological Association was held on Wednesday, July 23rd, at the Royal College of Physicians, London; Dr. Rayner, the President, in the chair. Among other business, Dr. J. A. Eames was elected to be President for the ensuing year, and it was agreed that the next annual meeting should be held in Ireland.

The PRESIDENT, in his opening address, dwelt on the delays to treatment by the present system of certification of the insane, and asserted that loss of chance of recovery, suicide, and other lamentable occurrences, resulted directly or indirectly from it. He deprecated any increase of the obstructions to placing an insane person under treatment, and advocated that every patient should be examined by a State medical official as soon as possible afterwards. He took the view that to abolish private asylums would logically involve the abolition of the care of single patients, which was regarded by many authorities as the most satisfactory mode of treatment. He recommended the addition of at least four medical commissioners to the present Lunacy Board, and an increase of the pay of the Commissioners in Lunacy. After alluding to various causes which might tend to reduce the development of insanity, and giving a summary of the progress in treatment, he suggested that any additional accommodation for the insane hereafter provided should be specially adapted to recent insanity. In conclusion, he expressed the expectation that at no distant date an arrest would occur in the present rate of development of insanity.

It was announced that the adjudicators had awarded the Association medal and money prize (which is open to competition to assistant medical officers of asylums) to Dr. Macphail of Garlands Asylum, Carlisle, an asylum from which good work has already emanated. This essay is entitled "Clinical Observations on the Blood of the Insane." We shall hope to touch further on it when it is published, which no doubt it will be shortly, as it becomes the property of the Association. The adjudicators were Prof. Gairdner and Drs. Orange and Rayner, the present president and his two immediate predecessors.

The members of the Association afterwards dined together at the "Ship" at Greenwich.

Reviews and Notices of Books.

The Guide to the Study of Ear Disease. By P. M'BRIDE, M.D. Edinburgh: W. and A. K. Johnstone.
Manual of Diseases of the Ear. By THOMAS BARR, M.D. &c. Glasgow: Maclehose and Sons.

THE first of these works, the author states, is intended to meet the requirements of the student and of the general practitioner who have not the advantage of studying otology under the guidance of a teacher. If it were said that an account is given of the various methods of treatment which are to be found in the text-books, to which reference is freely given—and the reader is left in some doubt how to choose between them,—it would, we think, more accurately describe the impression which is left after a perusal of this little book. To give one example. When speaking of the large subject of perforations of the tympanum, all the numerous applications which are in use and have been employed are mentioned, but the local conditions, appearances, symptoms, &c., for which each application is especially suited, are left to the student to discover for himself; and when it is said of the "artificial tympanum" that that of the late Mr. Toynbee is the one "most commonly used," a scarcely correct idea is conveyed of what is the practice with the chief aurists in this country or abroad. The record of symptoms which should make necessary an opening of the mastoid cells is most meagre, and the directions given are simply that a chisel or small trephine may be used, and the instrument directed forwards rather than backwards. The illustrations, however, are very well executed, and a very fair summary is given of the different operations on the membrana which have from time to time been suggested and practised.

The ordinary diseases of the ear are well described in Dr. Barr's manual, and whilst each disorder is under discussion, very full references are made to the writings of Continental aurists. The account which is given of the methods of examination is especially clear, as is also that portion of the book which deals with operations on the membrana tympani, a subject that is fairly discussed, and one on which it is most desirable that the general opinion entertained by those competent to judge should be freely diffused. As a manual the book is unusually large, containing nearly five hundred pages, but this may be excused in consideration of the fact that so few details of the subject have been omitted.

An Elementary Course of Botany. By the late Professor HENFREY, F.R.S. Fourth Edition, by M. T. MASTERS, M.D., F.R.S., and A. W. BENNETT, M.A., B.Sc. Pp. 724. London: Van Voorst. 1884.
The Student's Guide to Systematic Botany. By ROBERT BENTLEY, F.L.S. Pp. 178. London: J. and A. Churchill. 1884.
Aids to Botany. By ARMAND SEMPLE. Second Edition. Pp. 103. London: Baillière, Tindall, and Cox. 1883.

THE fourth edition of Henfrey's well-known and justly esteemed work, while not occupying more space than heretofore, contains a large amount of new matter, especially in the morphological, histological, and physiological sections. It has evidently undergone careful revision at the hands of the editors, some passages of less importance having been omitted to make room for newer or more useful information. In the systematic portion of the work the natural orders have been arranged in accordance with Bentham and Hooker's "Genera Plantarum," although the editors have not hesitated to point out cases in which they differ in opinion from those veteran botanists. It must be a matter of no small difficulty to condense, as is done in the present work, the immense amount of botanical information yearly issuing from the press in such a manner as to render it available for the use of students, and to duly weigh results which appear contradictory, while endeavouring at the same time to keep up to date with the progress of botanical science. For the benefit of those who are unacquainted with Henfrey's "Elementary Course of Botany," it may be stated that the plan of the book is to lead the student by easy stages from a consideration of the various organs of plants, and the method of describing them, to a knowledge of their classification, the more difficult details of microscopical structure and of the physiology of plant life being subsequently described; while geographical and geological botany are reserved to the last. The subject matter is rendered easily comprehensible by typographical devices, certain necessary digressions, and additional or explanatory notes being printed in smaller type, and the more important matter and the larger natural orders of plants being indicated by large type. The explanatory notes on the affinities of the natural orders form an important feature in this work, and tend to give a much clearer idea of the classification of plants than could be obtained from a bare description of the botanical characters of each order. The prominence given to facts rather than to botanical terms is another advantage which the student will not be slow to appreciate. Exception might perhaps be taken to one or two points in the cryptogamic section, such as the retention of Phascaceæ (p. 404) as a distinct group of mosses, these plants being now more correctly distributed by bryologists amongst the various families of Bryaceæ, to which their structure indicates that they rightly belong, and of which there can be little doubt that they are degenerate or undeveloped forms. The Ricciaceæ (p. 407) have no more claim to be considered as exclusively aquatic plants than the Ranunculaceæ. Nor can we agree with Mr. Bennett in the statement that the compound nature of lichens has been completely established,

seeing that the Schwendenerian theory is not yet accepted by the majority of lichenologists. But these are minor matters of comparatively little importance to the student of medicine, and in no way detract from the usefulness of a book which may be considered one of the best of the manuals of botany that can be placed in the hands of a student of any branch of the science, and of which every botanist ought to have a copy in his library.

Those who have been accustomed to carry to and fro from botanical gardens Bentley's well-known "Manual of Botany," by the same author, will feel grateful to him for providing this portable little guide. It is of a convenient size for the pocket, and contains the whole of the descriptions of the natural orders of plants, as given in his larger work. This condensation has been effected by omitting all details relating to the economic uses of the plants of each order. A very useful feature in the book is a chapter on descriptive botany, with illustrative descriptions of several medicinal plants. As a pocket companion, to be used when studying practical botany, the book will be invaluable both to the student and to the more advanced botanist. The only subject of regret is that the author has not followed the mode of classification adopted in Bentham and Hooker's "Genera Plantarum," which will undoubtedly be the standard work used by British systematic botanists both at home and abroad for many years to come. In a future edition, which we hope may soon be called for, this point might be easily remedied. The addition of a few notes conveying some idea of the alliances of the different natural orders to each other would not add much to the bulk of the work, and would be very useful to more advanced students.

The second edition of Mr. Semple's little work, according to the statement in the preface, has been almost entirely re-written and a considerable amount of new matter added. Its object is to place before the student the leading points of the science in the plainest language possible. At the present day, owing to the rapid strides made in all branches of medical science, there is a tendency to consider botany as one of the least important of the sciences with which the medical student must be acquainted, and hence probably the attempt to make it as simple as possible. The plainness of the language adopted throughout the book is in some cases at the expense of accuracy. Looked at from a purely botanical point of view, it cannot be used with advantage as an introduction to a more extensive study of botany, for the student would have to unlearn many of the statements contained in it, and unless its perusal is accompanied by a practical study of plants in the living state, it can only serve as a means of "cramming" the subject. If used to remind the student of the meaning of the principal botanical terms before going up for an examination, care should be taken to correct, by a reference to the Pharmacopœia, such statements as the following—viz., that arnica, jalap, and serpentary are roots (p. 7), that the leaves of Uncaria Gambir, the flowers of ammoniacum (p. 23), and the fruit of rue (p. 35), are the officinal parts, or that ergot is a seed (p. 67). The index is an excellent one, and the chief advantages that the brochure appears to possess over works of a similar character are that it gives a list of the parts of the plants officinal in the British Pharmacopœia under the different organs of plants, and that it contains a synopsis of the characters of the principal natural orders affording medicinal plants.

ON the 23rd inst., certificates of efficiency were presented to those members of the Edinburgh Ambulance Corps who had passed the examinations. The number of certificates presented was 285. At the close of the proceedings, a number of persons enrolled themselves to form the nucleus of a Volunteer Artisan Ambulance Corps.

THE RIGHT USE OF REFUSE.

THIS was the title of a lecture given by Dr. Poore at the Health Exhibition on Tuesday last, Professor Tyndall occupying the chair. There was a large and most attentive audience. Dr. Poore remarked that nowadays sewer air or sewer gas was one of the staples of conversation in all society, and the elders of the present generation often wondered why it was that in their young days this subject was comparatively unknown. The reason was not far to seek, and lay in the fact that the present generation had been engaged for some years in the wholesale manufacture of sewer gas, which was a product of sewers and water-carried sewage, whereas our parents dealt with their refuse in a less wholesale fashion, and had not, as we have, sewers laid on to the very interior of their houses. The particulate and organic nature of the poison of some of the zymotic diseases had been definitely proved, and with regard to others it was a matter of the very highest probability. After giving the life history of the bacillus anthracis, and showing how it might be propagated artificially, and what were the conditions (moisture, warmth, darkness) which were favourable to its growth, the lecturer said we could hardly escape from the conviction that bacilli and allied organisms might grow in sewage, and especially in warm, dark sewers or cesspools. Apart from this fact, the knowledge that these poisons were particulate, and that each particle was alive and capable of infinite increase, made it very undesirable to disseminate these poisons in a great volume of water and allow them to trickle, nobody knew where, until an outburst of epidemic disease disclosed the unforeseen track which the poison had taken. Bacilli, it was well known, were killed by dryness, and in times of panic, like the present, dry methods of treating excreta were recommended. If dry methods were good in times of panic they must be good always, and it was well known that no spread of disease had been traced to the dry earth method or to the other dry methods (like that in use at Manchester) of treating excreta. Great sewerage schemes were seldom an unmixed good. They encouraged overcrowding by enabling houses to be built without any curtilage whatever, and without any outlet for filth except by the sewer. The density of population in London had increased in many parts, and with the result that those diseases which were propagated by aerial infection, such as measles and whooping-cough, to say the least, had not decreased. If a great sewerage scheme were carried out in the Valley of the Thames, that district would soon be overcrowded, and the amount of sewage to be dealt with would steadily increase. It must be borne in mind that although it was comparatively easy to lay pipes, the question of how to treat a great mass of sewage when it had been collected had not yet been settled. Nobody contended that chemical methods would render sewage wholesome, although they might clarify it to some extent. If a great outfall were established at Mortlake, it certainly would not be advisable to drink the water or to bathe in its neighbourhood. The great difficulty and expense being the treatment of sewage when collected, it was clearly to the interest of sanitary authorities to encourage the inhabitants to send as little sewage to the outfall as possible. In a district of villas and market gardens there should be no difficulty in treating sewage, and it could be done more efficiently and economically close to the house than elsewhere. The villa holder should be encouraged to deal with his own refuse on his own premises, and the way to encourage him was to have an equitable adjustment of sanitary rates so that the householder who dealt efficiently with his own refuse should pay less than he who left his refuse and filth to be dealt with by the public authority. The reverse was too often the case. A house to be securely healthy should have no collections of putrescible matter near it, and to avoid this it was necessary to use earth closets and apply the slops directly to the soil.—Professor Tyndall, in moving a vote of thanks, expressed his general concurrence with the lecturer, and dwelt upon the importance, under existing circumstances, of thoroughly disinfecting the excreta of cholera patients before allowing them to pass into the sewer.

THE LANCET.

LONDON: SATURDAY, JULY 26, 1884.

THERE is yet time for all parties to save their credit in the matter of the Medical Bill. If this short period is misused very serious discredit will accrue. Many of the existing authorities may be beginning now to congratulate themselves on the prospect of another lease of present privileges. It is very easy to defeat legislation. Parliament, with its interminable talk, its party exigencies, and its iron rules, is a very poor business instrument. But to defeat legislation is not to re-establish credit. The great universities of Scotland may yet show themselves not afraid of an independent test of the work they do. The great corporations of England and Ireland may yet take their proper place in a system which will abolish the half diplomas in which they chiefly deal, leaving to the joint corporations of Scotland an easy and lucrative trade in double qualifications. It is lamentable to think that, by the failure of the present attempts at legislation, the great Colleges of Surgeons of England and of Ireland—to say nothing of the Colleges of Physicians—may be doomed to years of legal incompetence to grant other than half diplomas. But this is the meaning of the miscarriage of the Government Bill. The authors of the series of amendments may yet escape the charge of wholesale and deliberate obstruction. The medical members of Parliament may yet show some sympathy with their brethren of the profession and share the honour of legislation demanded by medical men and required for the public advantage.

There remain two parties to the success of the Bill or to its failure, to the gratification of the profession or to its disappointment. One of these is the Government itself. No Government has ever shown more earnestness or taken more trouble to promote legislation on a sound basis than this one. Mr. GLADSTONE himself, in one or two sentences, has indicated his large conception of what is needed to make the profession one—to make it self-respecting and respected by the public. Lord CARLINGFORD and Mr. MUNDELLA have respectively taken unprecedented pains to place the subject fairly before Parliament and to get the best result possible. It will be regrettable if at the last moment the Government loses faith either in its own Bill or in its power to pass it. It is not the fault of the medical schools or the medical profession that it has been postponed to the end of July; neither, perhaps, is it altogether the fault of the Government that night after night, instead of appearing in its promised place on the order list, it appears last, or is conspicuous by its absence. We implore the Government to pass the Bill and to adhere to the original principles of it, as embodied in the Report of the Commissioners, including an independent Final Board. There are always troublesome members of their own party who exact from a Government unreasonable terms in exchange for their support. On this occasion Sir LYON PLAYFAIR is doing so. In a speech the fallacies of which we have tried to expose, he has done more harm to the Bill by faint praise than good by his approval. He has proposed an amendment which in our opinion is not an improvement. He proposes to require the Council to accept, in lieu of a final and conjoint examination arranged by the divisional boards, the admission of assessors in the various examinations of the existing licensing authorities. He must know that this change is not acceptable to the body of the profession, though doubtless he hopes by it to conciliate his supporters in Scotland. It is the weakness of Sir LYON PLAYFAIR'S position at this juncture that he is between two fires—very hot ones too—those of the corporations on the one hand and those of the universities on the other. He does not seem to see that the way to make the universities of Scotland greater still is to regard them as imperial institutions doing imperial work, and bound therefore not to shirk imperial tests. We trust that he will not be too exacting on the Government, and that he will not paralyse the future Medical Council. There is only one condition upon which we can agree to his amendment, and that is, that he shall give the Council discretionary power in any given case to dispense with a Final Board. To compel it to do so is to tie its hands and to make it impotent for good.

LAST week the grievances of the Indian Medical Service were brought under the consideration of the House of Commons by Mr. GIBSON in a very temperate speech, concluding with a motion, "That the condition of the East Indian Medical Service calls for the early attention of Her Majesty's Government, and this House trusts that steps will soon be taken to lessen the block in promotion and the disappointment at the methods of employment and pay which exist in its ranks." After a well-merited compliment to the service, which "has in its ranks now, and has had in the past, many distinguished men, and has always in times of cholera and danger been loyal to its duties," Mr. GIBSON proceeded to point out the grievances complained of by its members under two heads—those of the senior medical officers, and the grievances and disappointments of the juniors. Under the former, he adduced the reduction of the number of administrative appointments and the abolition of the privileges guaranteed to the service at the time they entered it, under the Government of India Act. While the strength of the medical service had been reduced by 20 per cent., the number of administrative appointments had been diminished by 33 per cent. The system of promotion by seniority had been modified, and that of selection for the administrative appointments introduced, without any compensation being awarded to the officers who were thus passed over; and a rule had been introduced by which officers who declined promotion when offered would be permanently passed over. These appeared to be the grievances of the senior officers. Those of the junior were of a different nature. They complained that by the terms of the Government circular, under the conditions of which they had entered the service, they understood that as soon as they passed the examination in Hindustani they would become entitled to a higher rate of pay, however employed; while the Government held that they were entitled to this increase only when employed in certain appointments. They also complained that the rate of pay—absurdly called *unemployed* pay,—which was to be temporary and exceptional, had of late been so much the rule that in many instances officers

did not get the increase to which they conceived they were entitled until they had served five or even six years in India. The motion was seconded by Sir LYON PLAYFAIR, who adduced several instances known to himself in which the system in operation had inflicted great hardship. But we were surprised to see that he talked about the young officers just arrived from Netley being put under the charge of their seniors, "whose special qualifications were not equal to those of the students placed under them," as being the practice "of placing the superior under the command of the inferior"; and quoted Professor MACLEAN of Netley as the author of this sage remark.

Mr. CROSS, with great justice, congratulated the Indian medical officers on the ability and moderation with which their case had been stated; but he contended that it was impossible, in the interests of the public, to argue that there should be no reduction in the number of administrative appointments if the Government should consider it advisable. With regard to the complaints of the junior medical officers, he pointed out that the slowness of promotion was an unavoidable result of the necessity for increasing the numbers of medical officers during the Afghan war, but that this stagnation was apparently now approaching an end, and he quoted figures to show that the number on unemployed pay was rapidly diminishing. With regard to the charge that the Government had not kept faith in the matter of increase of pay after the Hindustani examination had been passed, he maintained that the conditions had been faithfully observed, and that the charge was founded on an erroneous interpretation of the obvious meaning of the paragraph, which was restrictive, and not declaratory, of the persons entitled to draw the increase. He also pointed out that the regulations as to *officiating* pay, of which complaint had been made, were applicable to all branches of the Indian Service, and were necessary to enable the Government to keep up such a reserve of officers as would permit them to grant furloughs without involving a large addition to the expenses of the different departments. Mr. CROSS then showed that although in some respects the Indian medical officers were not so well situated as those of the Army Medical Department at the commencement of their career, their prospects were much better after a few years' service, and also as regarded their pensions. After a discussion, in which several members took part, the motion was negatived without a division.

From a careful study of the whole subject, we see no reason to alter the conclusions at which we arrived when the Indian Medical Warrant was issued: that the changes involved in it were necessary in view of the altered condition of the army, and that, as far as regards the senior officers, the arrangements ought to be deemed satisfactory. With regard to the grievances of the junior officers, we are still of opinion that a revision of the system of so-called unemployed pay is urgently needed, that it may, to use Mr. GIBSON'S words, "be put on something like a rational basis." Dr. FARQUHARSON observed that, "as to unemployed pay, he did not see why such an unmeaning term should not be abolished, and why some general arrangement should not be come to by which pay might be given for admitted employment on different scales." The modifications consequent upon the changes introduced into the hospital system seem imperatively to require a reconsideration of the whole system of charge pay and allowances. On another point a change seems called for—that of compelling officers to "pay their way to all appointments in which they draw higher pay." We believe that in many instances, especially of officiating appointments, this rule inflicts a grievous injustice upon the officer, who may not be able, from circumstances not under his control, to hold the appointment long enough to recoup him the expense to which he is thus put. Except in cases where the change is made at the officer's own request and for his convenience, the expense of the removal should be borne by the Government. Mr. CROSS has promised to bring Mr. GIBSON'S statement of the grievances of the medical officers to the notice of the Government of India, and we trust he will back it up with a strong recommendation in favour of the amelioration of the service in these important points.

THE statement made in the House of Commons last week by Sir CHARLES DILKE shows that the action of the Select Committee in throwing out the Lower Thames Valley Main Drainage Scheme, which had been unanimously approved by the Main Sewerage Board, and confirmed, after a careful inquiry, by the Local Government Board, was a gross and unwarrantable blunder, likely to be followed by the most disastrous consequences. If the scheme had been approved by the Committee, Parliamentary powers would have been conferred upon the Main Sewerage Board which would have enabled them to carry the sewage of the whole area to a single spot near Mortlake, purify it by precipitation, and also, we believe, by land filtration, throw into the river a tolerably clear and practically harmless effluent, instead of the raw sewage which now defiles it. We do not pretend that the scheme is perfect. Whatever precipitating process is used, the effluent water is never pure, and the solid portion is always to some extent offensive. The process selected by the Board was that of the Rivers Purification Association now in use at Coventry and elsewhere. The sewage is mixed with lime and the sulphates of iron and alumina, which precipitate the solids, and, if the subsidence reservoirs are large enough, gives a clear and by no means objectionable effluent. The solids are partially dried by a filter press, and form a manure which has a certain value, though not a great one. The Main Sewerage Board proposed to carry this sewage-cake in barges to a spot near Rainham in Essex, where, according to scientific evidence, it would cause no nuisance. The defects of the system are obvious, and it may furthermore be conceded that it would be difficult, if not impossible, to turn out a satisfactory effluent in times of flood; that we take to be the greatest objection to the system as at present worked.

But the reply to all such objections are the obvious questions—What else can be done? What better scheme is offered? The sewage of more than a hundred thousand persons is to be disposed of, and it is admitted by nearly everyone that it must, under existing conditions, go into the river. The system indicated in the attractive motto, "The sewage to the soil, the rainfall to the river," is for the present impracticable, and the task of practical sanitarians is limited to the purification of the sewage as much

as possible before it joins the rainfall in the inevitable river. Experience has shown that the system now under consideration is capable of effecting a fair purification of sewage without perceptible nuisance, and at moderate cost. We do not say that it is the best of all possible systems, but we hold that the immediate adoption of some system is absolutely necessary, and that no other is at present proposed. As for the objections of individuals, it is impossible to imagine any method of treatment which would not inflict injury, real or imaginary, on someone. If anyone is injured, he must be compensated—that is all.

The conduct of the Committee in regard to this carefully prepared scheme has been so extraordinary that we will not attempt to account for it. Not only have they rejected the scheme, but they have recommended the rejection of an unopposed order which would have protected the Main Sewerage Board and the ratepayers from the liability which under the Thames Conservancy Act they will now incur after September next. They rejected the scheme almost contemptuously. They heard the evidence of only two out of the eleven constituent authorities, they did not even listen to the Main Sewerage Board appointed to find a remedy for the evils so long complained of, and, as far as we can understand, found no fault with the suggested system. The essence of their report is the general suggestion which we noticed last week, that the district should be divided into four or five smaller districts, each of which should undertake the purification of its own sewage, and this suggestion appears to us a most unwise one.

In favour of the proposal one argument may fairly be urged. To ensure the most rapid oxidation it would, no doubt, be better that the sewage effluent should enter the river at several places instead of at one, and it is open to question whether, if the scheme of the Board had been carried, it might not have been found possible to discharge the effluent at several points not too near together. But the rejection of the whole scheme on this ground will, it appears to us, lead to a waste of time and money utterly out of proportion to the defect alleged as excuse. The long-continued pollution of the river in the Richmond and Kew districts has been caused mainly by the opposition which each sanitary authority has met with in its attempts to gain sanction for its pet scheme. If four or five small boards are now turned loose to deal independently with their sewage difficulties, they will meet at once with the old opposition, strengthened and encouraged by previous victory. In the most favourable case the purification of the river could not be attempted before 1886, and there is but too much reason to fear that it will be indefinitely delayed. That would be a terrible risk. An imperfect remedy is better than none, and it is, above all, necessary that some remedy shall be applied without further delay.

As for the condition of the Thames below London, all that can be said is that it is about as bad as it can be. It is literally dangerous to breathe its air; and we have heard of cases of sickness and diarrhœa obviously traceable to its noxious exhalations. The Metropolitan Board of Works, who have expended large sums of money in demonstrating its purity, seem at last to have awakened from their delusion, and are making efforts as futile as frantic to disinfect the sewage. We can hardly believe it to be true, but a report reaches us that they actually contemplate the manufacture of chemicals for the disinfection of the sewage of all London. The public who pay for it ought to know how much the so-called disinfection is costing per diem.

TWO matters of especial interest in connexion with the question of Lunacy Law Reform are always before the public, and we cannot doubt that it is mainly because of this very persistence of their appeal, whether mute or clamorous, for prompt consideration, the claim is disregarded. Consciously or unconsciously, public opinion grows obdurate to the demands of a continuous need; and "burning questions," unless they can be artificially, or are fortuitously, blown into a flame every now and again, are, for the most part, left to burn themselves out. It is so with this question of Lunacy Law Reform. The two matters of especial interest to which we allude are the farcical character of the Commissioners' inspection and control of asylums and the system of private or "licensed" houses. We scarcely know which of these scandals—for such they unquestionably are—should be regarded as the more discreditable.

It reflects seriously on the common-sense of the country that £15,159 per annum should be wasted in the maintenance of a Commission which, whatever it has been in the past, has now ceased to be anything except an effete body, giving only, now and again, a peevish kick at some unoffending individual in order to show that it is still so far alive as to be able to draw the public moneys allotted to it. As regards even the inspection of houses for the residence of the insane, the Commission is of no possible use to the community. If any proof were needed of this fact, it would be supplied by the last fearful calamity of asylum-burning, when a house notoriously unsafe was licensed and periodically inspected—save the mark!—by the oligarchy of "extinct volcanoes" at Whitehall. While as to the protection of the insane, the sort of efficiency with which the Commission does its work may be judged from the fact that whenever any question arises, the noble chairman—whom everybody personally respects—is put up to say that the "certificates" given are carefully examined and found correct, and that no grave breaches of the Lunacy Law are known to the Commissioners; whereas everybody is well aware that the correctness of the certificates simply relates to the technical filling in of the forms, without the most distant reference to their truthfulness.

As regards breaches of the Lunacy Law, the Commissioners seem to become aware of what is being done, if we may judge from the inquiries they make from time to time, about two years after its occurrence! Probably few things in public business are so "ripe" as the agenda of the Commission in Lunacy, except it be the information received or acquired by the Lord Chancellor as to what is going on in the lunacy department under his jurisdiction. It will be within the recollection of our readers how the noble lord on the Woolsack, when the Earl of MILLTOWN raised a very useful discussion in the House of Lords some time since, had to send to the library for books to give him a few facts for his speech in defence of the *status quo*, and how it was evident from what the Lord Chancellor cited and said on the subject that he knew nothing whatever about what had been going on during the last few years, and was barely

aware that the question of reform had been mooted Indeed nothing so comic has occurred in connexion with any debate in either House of Parliament on a grave question within our memory as the noble lord's *naïf* betrayal of ignorance of the subject. His production of fossil figures and facts with much solemnity calls to mind the story of the unhappy parson in a civic pulpit, who, having forgotten his sermon, was fain to read one chained to the desk, which happened to have been written in the time of the Great Plague. Lord SELBORNE'S information on the subject was many years old.

The private asylum system, and all it implies and involves, is again thrust upon public attention by criticisms in the House of Commons and by proceedings before courts of law. It is not on individual cases and complainings this question should be made to rest. A most grievous facility for wrong-doing undoubtedly exists It is not necessary to prove that wrong has actually been done. We would be willing to admit, for the sake of argument, that no single case against a private asylum proprietor has ever been clearly made out; nevertheless, we must contend that a system so utterly unsafe, and obviously inexpedient and indefensible as that which makes the retention of lunatics in asylums a matter of trade policy, ought not for a single instant to be tolerated. We have compared the private asylum system to that of the old "sponging houses," and the comparison has been resented. It is, however, accurately apposite and complete. Both as regards the mode of incarceration and the power and manner of detention the two sets of houses are on all fours. We are prepared to demonstrate the analogy at all points if anyone cares or dares again to challenge it. We repeat, and shall continue to reiterate until reform is conceded, that the laws which govern the custody — we will not say the medical treatment—of the insane are a scandal to the country.

THE doctrine of the infectivity of tubercle is mainly based upon the results of experimental inoculation, and the belief in the transference of the tubercular virus by inhalation is grounded on similar experience. It was to test the value of such observations that Dr. WARGUNIN has been conducting experiments in Prof. RAJEWSKY'S laboratory at St. Petersburg, which are recorded in the current number of VIRCHOW'S *Archiv*. The experiments were made upon dogs, and consisted of three series. In the first series the animal was caused to inhale an atmosphere charged with products of phthisical sputum, in the second with similar material after disinfection by carbolic acid and by heat, and in the third with indifferent substances, as particles of flour, cheese, and the dried products of bronchitic sputum. In all the dogs submitted to the first process the lungs became the seat of changes having the macroscopical characters of miliary tubercle, and this whether the "dust" was inhaled in the dry state or with vapour. It appeared, however, that when an animal was placed under better hygienic conditions, it could recover from the effects so produced—effects all the more striking, since tubercular affections are rare among the canine species. These results are in harmony with those previously obtained by TAPPEINER and others, and at first sight would seem to confirm the doctrine of the infectivity of tubercle. But it was found that the same effects were produced in one out of three cases by the inhalation of previously disinfected sputum; and the question arose whether, after all, such effects could be attributed to specific infection rather than to merely mechanical irritation of the lung by the finely divided particles. At the same time, admitting the infective view, it was conceivable that the disinfecting process had not been thorough enough, and that the virus still remained operative. It was with a view of testing this point that the third series of experiments was undertaken. Here the material employed was destitute of any specific qualities, and yet the lungs became the seat of changes indistinguishable from those set up by the inhalation of phthisical products.

It now became necessary to ascertain whether the nodules which bore a general similarity to tubercle were really of that nature, or whether they essentially consisted in inflammatory material excited by the presence of foreign bodies. It is unfortunate that this research was mainly completed before KOCH'S discovery of a bacillus was known to the observer, so that the detection of this micro-organism as a test of the tubercular nature of a morbid process could not be utilised. This fact deprives WARGUNIN'S research of some of its importance, and must necessitate a repetition of these experiments. Apart, however, from the presence or absence of the bacillus, histological examination pointed to a simple inflammatory rather than a tubercular change; for the process appeared to commence as a cell growth within the smaller bronchioles, leading to their occlusion. In some parts this change was limited to the mucosa, in others it spread to the adventitia. The cells which blocked the lumen of the bronchiole were spindle-shaped, the deeper ones lying nearest the wall being spherical; but as the new tissue contained no bloodvessels, it speedily underwent fatty degeneration. It would appear, then, to be something more than a mere catarrhal process, since the cells showed a tendency to become organised; the lack of vascular supply, however, arresting the process. In the alveoli there was a large production of young cells, apparently from the epithelium, and the nodules thus formed underwent fatty degeneration. Similar nodules, but undergoing caseation more rapidly, and presenting fewer features of granulation tissue, were produced in the rabbits long after the inhalation of the products of phthisical sputum. It would seem as if in the rabbit the irritant produced changes more rapidly than in the dog. Anatomically, then, the lesions did not conform to the typical structure of tubercle; and the limitation of the process to the lungs, the absence of general symptoms, and the fact that those animals which, after the inhalation were placed in good hygienic conditions, recovered, pointed to the conclusion that the induced disease was not tuberculosis, but a local inflammatory process—a broncho-pneumonia excited by the contact of foreign solid particles.

It is interesting to turn from the perusal of these researches to the statements by KOCH in his elaborate report on the Etiology of Tuberculosis ("Mitth. aus d. Kais. Gesundh.," Bd. ii.) KOCH employed for his inhalation experiments the cultures of bacilli obtained from phthisical cavities, and submitted rabbits, guinea-pigs, rats, and mice to an atmosphere charged with these products suspended in water, the inhalation being conducted for the space of half an hour on three successive days; the animals being then placed in separate

and spacious cages. Three rabbits and four guinea-pigs died within fourteen to twenty-five days, and the remainder were killed twenty-eight days after the last inhalation. In all of the rabbits and guinea-pigs the lungs contained numerous tubercles, which were also present in the liver and spleen of those that survived longest. These tubercles when of large size extended into the alveoli of a whole lobule, and thus formed nodules of considerable size, studded with yellowish points corresponding to the caseated alveolar contents. In fact the larger masses reproduced the characters of caseous broncho-pneumonia, just as in the spontaneous tuberculosis of these rodents. The only differences from the above in the case of rats and mice lay in the less abundance and smaller size of the tubercular nodules. In all the instances the tubercles presented the typical character of the growth in the presence and disposition of epithelioid giant cells and of bacilli. Moreover, KOCH transmitted the disease from these animals by inoculation.

From these explicit statements of KOCH we turn to WARGUNIN'S paper in the hope that some means of reconciling the different results may there be found. Instead of this we only meet with the assertion that the etiology of tubercle is not so simple as KOCH asserts. For if it be so, says WARGUNIN, and if all that is necessary to develop pulmonary tubercle is exposure of the lung to the virus, especially if the protective epithelium be injured, then every bronchitic subject should be in danger of becoming phthisical. Moreover, he is not satisfied with any of the numerous inhalation experiments hitherto conducted, averring that more attention has been paid to the general macroscopical features of the lesion than to its histological characters; and that account has not been taken of the occurrence of antecedent pathological processes, or of the famous dictum of BUHL as to caseation inducing tuberculosis. SCHOTTELIUS appears to be the only observer who has regarded the effects of the inhalation experiments in the light here expressed by WARGUNIN,—with this difference, that SCHOTTELIUS considers the first effect to be upon the alveoli, the bronchial change being secondary.

We have thought it well to direct attention to this paper, which is unfortunately defective in several points (and chiefly in the scanty attention paid to KOCH'S experiments), because the main significance of the subject rests in the solution of the question raised within it. That tubercle is transmissible by inhalation is the foremost question of all, for it lies at the root of the alleged contagiousness of phthisis. It is in this direction that the medical world must look for definite and conclusive statements from experimental pathologists, based on thorough investigations undertaken without bias or prejudice.

MANY points of great public interest were raised in the recent Conference on Adulteration at the Health Exhibition. Dr. BELL, whose address, presented in abstract in our last number, opened the proceedings, spoke, in language the stronger for its impartiality and moderation, of some of the defects of the present Acts. Dr. ODLING, who, as President of the Institute of Chemistry, presided, confined himself to a summary of the subjects requiring consideration; but most of these subjects were discussed by subsequent speakers, many of whom, though not all, were well-known public analysts. The speeches by Dr. DUPRÉ, Mr. WIGNER, Dr. MUTER, Dr. STEVENSON, and Mr. HEHNER were among the most important, but some others contained valuable suggestions.

It is admitted on all sides that great benefit has resulted from the Act of 1875. The use of adulterants injurious to health has practically ceased, and fraudulent adulteration, although still common in respect to a few articles, has been reduced and made more dangerous to the trader. This is much to have attained, and naturally suggests the question, which occupied a prominent place at the Conference, Whether legislation having done so much, it may not, by increased stringency, be made to do more. If so, it is clearly a part of the public duty of the medical profession to promote an early reform. A full consideration of the matter cannot be attempted in a single article, but a few general remarks seem necessary, and ought not to be delayed.

In the first place it is an important defect in the present law that too much option is left to local authorities. To this defect we have recently drawn attention. The Local Government Board has power to compel sanitary authorities to appoint public analysts, but cannot compel them to find work for them, or pay them properly. It sometimes happens that a local authority obstinately refuses to carry the law into effect. Whether this be due to false economy, interested motives, or sheer stupidity, the effect on the public is the same. Analysts are appointed, but they analyse nothing, and fraudulent tradesmen have it all their own way, to the injury of their honest competitors in trade, as well as of the public. In this, and in several other respects, no blame attaches to the public analyst. It ought to be more generally understood that the analyst has no control over the collection of samples or the prosecution of tradesmen, and does not, in the great majority of cases, know the names of the vendors. His duty is limited to the analysis of the samples sent to him and to the framing of certificates based upon these analyses. If legal action follows, it is not undertaken at his instance. The insufficient and often injudicious collection of samples is the one chief cause of the survival of adulteration. The inspector is generally well known, and his visits are apt to be made at too long intervals and to too few shops to exercise a sufficient influence on the trader. When we add that the penalties on conviction are often ludicrously small, that all kinds of legal quibbles can be used successfully to escape them, and particularly that the analyst is tied to a form of certificate so narrow as sometimes to be quite inapplicable, it will not be thought wonderful that adulteration lingers in the land. One fact, moreover, seems now to be certain: no important help can be looked for from the general public. It is, we presume, well known that any individual can, for a small fee, and sometimes for no fee at all, procure an analysis of any article of food or drugs, provided he has complied with certain conditions intended for the protection of the trader, and that, without cost to himself, the fraudulent trader may thereby be punished. But, as might perhaps have been expected, the public will not take the necessary trouble, and this part of the Act has but little practical effect.

The question of standards, or, as they are more properly called, limits, of purity was keenly debated at the Conference, and very different opinions were expressed in regard

to them. It is most important, and unfortunately most difficult, in the case of milk, which is more frequently adulterated than any other article of food. If the analyst is of opinion that a sample of milk has been sophisticated, either by skimming or by the addition of water, the law compels him to state the amount of such sophistication. Genuine milk differs so much in composition, and is occasionally so very poor, that it is impossible to say in any given case how much cream has been removed, or how much water added. The analyst protects himself as far as possible by stating that "not less" than so much cream has been removed or water added, but unless he takes the very worst milk as his standard—the milk of some half-starved cow, quite unfit for food—he must sometimes run the risk of reporting milk as skimmed or watered which came straight from the cow. The difficulty here is due to the wording of the Act, and might, we think, be easily overcome. The law ought to fix a reasonable limit of strength for milk, as it does already for spirits, and the selling of milk below this strength ought to constitute an offence. It is urged against the fixation of such a limit that it would encourage dealers to skim or water their milk down to the limit. But unfortunately that encouragement is already afforded, and we do not see how it can be avoided. Every milkman knows the limits adopted by public analysts and by the chemists of Somerset House, and knows that so long as he keeps the solids, not fat, up to 8·5 per cent. and the fat to 2·5 per cent., he may skim and water as much as he likes. Somewhat higher limits than these might, we think, be prescribed by Act of Parliament without injustice, and the public would really gain. The milkman who sold a better milk would get a better price for it, and if he guaranteed a certain quality, would of course be judged by that guarantee. Many other important points press for notice, but we must for the present leave them unconsidered.

THE slow rate at which the cholera epidemic progresses gives some hope that the outbreak may, after all, be more limited in character than was the case when Marseilles was last attacked. Both at Toulon and Marseilles the daily number of deaths has been much the same as during the previous week, and some additional towns have been attacked, the most marked importation having taken place at Arles; but, notwithstanding occasional rumours to the contrary, Paris seems not yet to have suffered from any appearance of the Asiatic disease. When the extreme heat which has prevailed is taken into consideration, this result may be regarded as hopeful; and it is by no means impossible that the reduction of temperature which has commenced may tend still further to limit the course of the epidemic. Extreme watchfulness is, however, still needed. The *St. Dunstan*, which arrived a few days ago in the Mersey, had had two deaths from cholera amongst her crew, and after keeping the remainder under observation for a day it was found desirable by Dr. TAYLOR, the medical officer of health for the Port of Liverpool, to remove seven others to the port sanitary hospital near Bromborough, Dr. HOPE, the assistant medical officer remaining in charge. The vessel was then thoroughly disinfected by means of carbolic acid, the ballast water was pumped into the river, and so far no further harm has happened.

Two curious instances of so-called preventive measures in countries where our system of inspection and isolation is not resorted to come under our notice together. In one instance the news is from Geneva, where impecunious people get into the train, and having given passengers an exaggerated account of the process of disinfection they will have to go through they exchange tickets, and for a substantial consideration they undergo the fumigation discomforts instead of the genuine travellers. The other comes in the form of a protest from the passengers of the homeward bound steamer *Mira* from Calcutta. Before touching at Colombo, on April 21st, one of the crew died of cholera. All necessary precautions having been taken the vessel reached Suez, and though sixteen days had elapsed, and all on board remained well, she was ordered to El Tor to perform seven days' quarantine. No proper arrangements had been made for their reception, and a few wooden huts with some disgustingly offensive privies afforded the only accommodation available for a large number of first-class passengers of both sexes. Such an arrangement is discreditable in the extreme to the Sanitary Council of Alexandria. But what follows is worse than discreditable. The death had occurred amongst the crew, who occupied an entirely distinct part of the ship to that which was reserved for passengers. And yet it was the passengers who were thus compelled to leave the ship and to go into quarantine, the crew being allowed to remain on board. Nothing but utter ignorance of the etiology of cholera can account for such a system.

Annotations.

"Ne quid nimis."

AN ENGLISH CHOLERA COMMISSION.

WE are enabled to state that the Government have directed Dr. Klein, F.R.S., and Dr. Heneage Gibbes, to proceed forthwith to India to pursue a scientific inquiry into the nature of cholera. It is understood that these gentlemen will act in conjunction with the Commission nominated a few weeks ago by the Indian Government for the same object. In the prosecution of their labours Drs. Klein and Gibbes may be assured of the hearty good wishes of all Englishmen, and the results of their mission will be awaited with great interest. The Government in arriving at this decision have only done that which ought to have been done twelve months ago; and it cannot fail to touch the national pride that the country which has the largest interest in arriving at a sound conclusion upon the nature of this disease should have allowed Germany and France to have preceded it in the research. It is better, however, to be late in the field than to ignore the value of such an inquiry altogether.

HOSPITAL FETE AT THE HEALTH EXHIBITION.

THE grand *fête* which was held under Royal auspices at the Health Exhibition on Wednesday evening last was not only in itself a brilliant success, but seems likely as its result to supplement the Hospital Sunday and Saturday Funds by several thousand pounds. It was at the kindly suggestion of the Prince of Wales that one of the two reserved Wednesday evenings was devoted to the benefit of the London hospitals, and, according to promise, his Royal Highness and the Princess of Wales honoured the occasion by their presence. The invitation which had been issued to the public to contribute flowers and fruit for sale during the evening

was promptly and most generously responded to. As a consequence there were no less than twelve stalls picturesquely scattered in various nooks and corners of the Exhibition buildings. Many of the stalls presented the appearance of a complete arbour of flowers, and the fair stall-holders were evidently doing a capital business; indeed it was impossible to resist such pleading as, "I don't sell roses every day—and, think, it is for the hospitals." The working dairies were specially decorated, their counters being covered with flowers and fruit, in addition to which milk, cream, butter, &c., were here sold. In connexion with this it should be mentioned that exhibitors at whose stalls articles were sold devoted the profits to the hospital fund; and Messrs. Bertram and Roberts, the refreshment contractors, contributed out of their takings a sum of £100. Twenty-six large firms also sent a liberal supply of flowers and plants. Eight bands of music performed in different parts of the Exhibition. The illuminations in the Horticultural Gardens were on an unprecedented scale, and afforded the prettiest imaginable sight. Everyone connected with the undertaking must have worked hard to secure its success, which was indubitable. If exception could be taken to anything, it was to an element beyond human control—the weather,—the evening being somewhat chilly, and dark clouds at one time threatening to spoil what was a veritable glimpse of fairyland.

THE WOUNDED POLICEMEN.

FOR the following notes on the cases of the two police constables who were shot last week at Hoxton in an encounter with burglars we are indebted to Mr. Toller, house-surgeon at St. Bartholomew's Hospital:—

David Garner and William Snell were admitted into St. Bartholomew's Hospital, under the care of Mr. Morrant Baker, on Friday morning, July 18th, the former suffering from a bullet wound of the thigh, and the latter of the abdomen. In the first case the bullet had passed through the back of the thigh, penetrating the hamstring muscles, the aperture of entrance being situated about the level of the apex of Scarpa's triangle and three inches to the inner side of the femoral vessels; passing behind them, it found exit in the middle of the back of the thigh, nearly four inches below the gluteal fold. The wounds presented the usual appearance, with the exception of the wound of exit, which seemed smaller and very ragged. The hæmorrhage was free at first, but soon ceased, and has not again given trouble. Sanitas oil dressings (1 in 30) were immediately applied, a small portion of which sealed the wounds, and were not frequently changed. The constitutional symptoms and the local trouble are very slight, and up to the present the parts are looking quiet. The case of Constable Snell is much more grave—rather from the possible consequences, however, than from any present symptoms of danger. The bullet in this case entering close to the outer border of the right rectus abdominis, and slightly below the level of the lower costal cartilages, appeared about an inch and a half to the right of the spinous process of the third lumbar vertebra. No sign in the shape of superficial tenderness or bruising in the abdominal wall from the track of the bullet could be discovered, although there was much ecchymosis and tenderness around the wound of entrance. The symptoms on admission (four hours after the injury) were severe. There was considerable prostration; the aspect was dusky and of a yellow colour, as of a man suffering from shock. The pulse was 99, of fair volume; temperature 99·4° F. The hands were somewhat tremulous, and the patient complained of pain in the back and abdomen. The temperature so far has not risen above 101·4°, and is now gradually descending. The bowels act without pain, the urine is natural, and there are none of the symptoms of peritonitis or pleurisy. The treatment adopted was similar to that in Garner's case, the wounds being sealed with sanitas oil lint (1 in 30), opium was administered occasionally for the first forty-eight hours, and the diet limited to fluids, with a small quantity of brandy. The revolver was a six-chambered one, rifled; and the bullets were conical, about half the size of a Martini rifle bullet. From the appearance of the wound and the absence of any superficial tenderness or bruising, and the constitutional symptoms at the time of the man's admission into the hospital, Mr. Morrant Baker is of opinion that the bullet probably passed through the abdominal cavity. Assuming that no important bloodvessel was wounded, and that the track made by the bullet was a clean one, there is every reason to believe that the patient will recover. From the position of the wound it is difficult to imagine that the liver can have escaped altogether; it seems most likely that the track of the bullet lies somewhere about or on its diaphragmatic surface, or its course may have been deflected by the diaphragm. In the absence, however, of any leading symptom, any statement regarding the exact position of the track can only be guesswork.

HEALTH RESORTS AT HOME.

THE season of "change" is again upon us, and "where to go" is the question of the hour. Practically, and as we think *prudently*, the Continent is regarded as closed against visitors for the present year. There is no cause for regret on this score. No climate, no waters, no baths, no air, can be obtained or enjoyed on the Continent for the "cure" of any disease whatsoever—we say this advisedly—which cannot be obtained in as great, or even greater, efficiency within the limits of our own islands. For example, Strathpeffer, in Scotland, is incomparably better, so far as remedial resources are concerned, than Royat or Ems, or any other of the vaunted spas or baths across the "silver streak." Buxton, Matlock Bath, and a score of other places, are every bit as good as the health resorts to which it is *fashionable* to go at great personal trouble, and risk of contamination by dirt or blood-poisoning from the insanitary condition generally of the Continental places of concourse. It is simply because a long journey must be taken, and the language spoken is different, and because the local authorities of these places abroad are wiser in their generation than our local authorities at home, and spend more money to make their surroundings attractive, that foreign baths and spas are popular. We cannot hold the members of our own profession free from blame in the matter of crying up the "waters" and "baths" of the Continent at the expense of those of the home country. Let us hope that this year pains will be taken to search out and form a just and patriotic estimate of the facilities for *change* and recuperation which lie so close at hand that we almost systematically neglect them.

THE TREATMENT OF COMPOUND FRACTURES.

A PAPER of much practical interest was read by Dr. Fred. S. Dennis, Professor of Surgery in Belle Vue Hospital, &c., New York, at the recent meeting of the American Medical Association. Professor Dennis does not disparage the antiseptic principle in the surgery of compound fractures, but he is eminently an advocate for the adoption of cleanliness. The success of his practice will be apparent when we say that, after excluding deaths from shock &c. within forty-eight hours after admission, he is able to report 100 cases of compound fracture without a death from any cause. They are divided into cases of—1. Compound fracture of the skull: of these there were 23 cases; excluding 6, there remain 17 cases of recovery from compound fracture of the skull, in succession, with no death, 10 of which required

trephining. 2. Compound fracture of the thigh: all of these recovered; in one amputation was required. 3. Compound fracture of the leg: of these there were 58; all the patients recovered except 2, who died from shock within forty-eight hours. Ten of the cases opened into the knee and ankle-joints. In a few the hæmorrhage was formidable. One case was a double compound fracture of both bones of the legs with alarming hæmorrhage, but the patient was out of bed and sitting in a chair on the fourteenth day without a bad symptom. Amputation was practised in 11 of these cases, generally primary; all recovered. 4. Compound fracture of the arm: 12 cases, all of a serious character, and all recovered. 5. Compound fracture of the forearm: 14 cases; all recovered but one, which was complicated with extensive burns, the patient dying of shock within twenty-four hours; of the remaining 13 cases, 3 opened into the wrist-joint and 1 into the elbow-joint. 6. Compound fractures of the jaw: all recovered. Professor Dennis says: "Deducting cases of compound fracture of the hand and foot, 14 cases of primary amputations, and 9 deaths from shock, there remain 100 consecutive and of course unselected cases, occurring in three hospitals, without a death." We congratulate Dr. Dennis on a record so creditable. The points of his treatment are (1st) absolute cleanliness; (2nd) immediate fixation; and (3rd) provision for free drainage when necessary. The patient is generally anæsthetised, and the injured part washed with soap and water, and "scrubbed well with a brush," so as to remove débris, dirt, &c. The limb is then irrigated for a few moments with a 1–40 solution of carbolic acid, or 1–2000 solution of corrosive sublimate. Care is taken to replace broken fragments, or, if necessary, to remove projecting ends. When these cannot be reduced without much violence, Dr. Dennis divides tendons subcutaneously to overcome resistance and secure muscular rest. The results speak for themselves. The details of Listerism are not practised, but its principles are not ignored; and Dr. Dennis's cases go essentially to swell the triumphs of careful cleanly surgery. The paper, with tables and temperature charts, will be found in the Journal of the American Medical Association for June 21st.

SMALL-POX AT KIMBERLEY.

IN a leading article of May 10th, 1884, whilst discussing the nature of the epidemic that had broken out in the Diamond Fields in the autumn of 1883, we used these words: "The peril to the Kimberley district has been removed for the time being, but for divers reasons it may at any moment 'develop dangerous energy.'" One ground for fearing what has since happened was the resolute denial by Drs. Jameson and Wolff that the disease was small-pox. No doubt these gentlemen recognised, as the merest tyro could not fail to do, the deadly nature of the visitation; at the same time the general public are guided in their action by the position taken by their medical advisers, and the more so when the latter are men of considerable attainments and known ability. Again, there is much in a name to stimulate to action or induce an indolent repose. Can it be denied that if the members of the French Academy of Medicine had persisted in calling the present outbreak at Marseilles and Toulon "cholera nostras," the number of victims would have been much greater. It is to be regretted that Drs. Jameson and Wolff did not see the mistake they had made, or seeing, that they did not acknowledge it. At last the local authorities of Kimberley and adjoining districts, assisted by the central executive, have awakened to a responsibility of their position. A lazaretto has been established at Datoitspan for the reception and detention of persons suffering from the contagious disorder, which we have no hesitation in calling small-pox. Dr. Saunders, the Special Cape Town Commissioner, has reported himself satisfied with the arrangements by which Dr. Jameson is reported to have said he will "stamp out the disease in three weeks." We sincerely trust the prediction may be fulfilled; the best guarantee that it will be would be the avowal by Drs. Jameson and Wolff that their theories of "varicella" and "pemphigus" no longer hold water, whatever the vesicles and bullæ may contain. With other correspondence, we have received a printed copy of the shorthand writer's report of the cross-examination of Dr. Jameson at the late trial of Dr. Wolff for having contravened the provisions of the Public Health Act, 1883, and also photographs of two cases diagnosed by Drs. Jameson and Wolff as chicken-pox. The former will be read with amazement by those who give it an unbiased consideration; the latter would form an excellent illustration of a description of small-pox, and one worthy a place in our leading text-books.

POST-MORTEM DIFFUSION OF ARSENIC.

DRS. VAUGHAN and DAWSON, of the University of Michigan, U.S.A., have recently conducted some important experiments with the view of ascertaining if arsenious acid injected into the mouth or rectum after death would diffuse through the body. These observers not only found that such was the case, but that the diffusion was very extensive. The results of their investigations have a very important bearing on the question of arsenical poisoning. In the first place, it can no longer be contended that because arsenic is found in quantity in the fluids and tissues of the body, that therefore death was due to its administration; and in the second, a certain amount of immunity is given to the would-be murderer, inasmuch as there is the possibility of covering a homicidal act by using arsenic with the ostensible purpose of preserving or embalming the body. We say possibility, for such a procedure would almost to a certainty be defeated in its aim. At any rate, there would be no chance of success if the post-mortem examination were conducted within a short time of death, when there would be the usual signs of inflammatory action in the alimentary canal; and again, in the face of other circumstantial evidence, the fact of the accused having resorted to such a particular mode of preserving the body would rather tend to confirm suspicion than to remove it. That arsenic contained in soil may be dissolved in water and conveyed into the body has long been known. The researches of Drs. Vaughan and Dawson show what appears *a priori* as probable. During decomposition the relative humidity of different parts of the body, and of these with surrounding media, is constantly changing. Interstitial currents are passing through the tissues by osmotic action, and this liquid diffusion is naturally increased by the presence of crystalloid substances in solution; nor does it cease until the dialysis ends in an equilibrium of attraction which one fluid has for another, or presumably until post-mortem disintegration is complete.

SCHOOL HYGIENE AND OVER-PRESSURE.

THE Medical Society of London and the National Health Society are about to hold a series of very important conferences at the Health Exhibition next week. On Monday the subject of school dietaries will be discussed; Dr. de Chaumont is announced to read a paper, and Sir Andrew Clark, who presides, may be confidently expected to have much to say on this subject, upon which he can speak with great authority. The most important of the entire series of conferences, however, is that to be held on Tuesday, when the question of over-pressure in schools will be dealt with. Great pains to approach this subject in a definite and practical form seems to have been taken, and four propositions

will be submitted to the meeting by men so well versed in the matter as Mr. Pridgin Teale, Dr. Crichton Browne, Sir Joseph Fayrer, Mr. Brudenell Carter, and Mr. Marchant Williams. Mr. Kegan Paul is to open the discussion on the other side, and in his hands the case of the educationalists is eminently safe; and already Sir Andrew Clark, Dr. Michael Foster, Dr. Gladstone, Dr. Farquharson, and others have announced their intention of taking part in the discussion. This subject is one of immense importance, and has been well chosen for debate at such a Conference. On Wednesday the questions in relation to the prevention and treatment of Infectious Diseases will be discussed, and Dr. G. Buchanan is to preside. Thursday will be devoted to a discussion on School Construction and Arrangements. On Friday Sir James Paget will preside at a discussion on Recreations and Gymnastics, and on Saturday the series will be concluded by a Conference on the needful requirements of institutions for the education of idiots, foundlings, rickety and scrofulous children, &c., at which Dr. Langdon Down is to preside.

"THE IMMORTALITY OF LIFE."

No change can be effected without a number of disturbances. The disturbances may be classifiable, and are for the most part of very different sort. If a certain statement be made there is no question but that many authors will come forward with other declarations, each assertion having more or less relationship to the statement of the original author. When bacteria were first seen and described as living organisms of a microscopic nature, views were not wanting that these bacteria were merely crystals or pieces of fibrin or dirt, or some other substance having some likeness to the alleged micro-organisms. Amongst the many revelations which were thus brought to light in accordance with this law of bye-products was an assertion by Dr. Rollin Gregg that bacilli were neither more nor less than particles of fibrin. The gentleman just named has not finished exercising his ingenuity in this field of research. The "Revelations of Fibrin," "Unexpected Proof of the Immortality of Life," serve as the startling titles to a fresh literary attempt of the enthusiastic author. The accidental occurrence which is brought forward to prove that life is imperishable was provided by experiments of the following nature, as detailed in the *Buffalo Courier*. If some fresh fibrin taken from any source be placed in distilled water and allowed plenty of time to rot, abundance of rods endowed with remarkable powers of motility are said to appear. So far the author merely states what no doubt actually takes place. But there are many ways of describing facts. Unfortunately in the transcription there is a great tendency to the introduction of inferences not wholly of a legitimate kind. Dr. Gregg professes to believe that in the crude process above-mentioned the moving particles are merely animated filaments of fibrin. It is on these grounds that the "immortality of life" is established. There seems to be not a little ambiguity in this phrase just quoted. But let us take it as meaning that there is no such thing or quality as death, and examine it from that point of view. Physicists have taught that neither matter nor force is capable of destruction, and if by death is meant an utter annihilation, then probably all things and qualities live in some form or other. But see where such speculations land us. Words are made conventionally to have definite meanings, and truly, if we go the length of our above temporary hypothesis we may be said to have knocked all the sense out of our terms. Dr. Gregg ought to be aware that his views are simply a repetition of the doctrines of spontaneous generation, and consequently are to be met by the same sort of refutations as have been brought against the teachings of generation *de novo*. Heterogenesis is the term Dr. Bastian would apply to the process by which Dr. Gregg's revivified filaments of fibrin were provided. On this gentleman's showing the bacillus of tubercle or that of cholera may arise in a dish of rotting fibrin. The reason why the bacillus of cholera, which is merely a shred of animated fibrin, does not stain with dye is because its substance has not been softened by a suppurating process like that to which the bacillus of tubercle is exposed!

THE WASTE OF THE MEDICAL PROFESSION.

AMONG the many fallacies with which Sir Lyon Playfair's speech on the second reading of the Medical Acts Amendmend Bill abounded, perhaps the greatest was his statement as to what he called the waste of the profession. This was so serious that he owes it to the House of Commons either to confirm or to correct it. He said the doors of the profession must be wide enough to admit 1600 men annually, which is the waste of the profession, and he drew a startling picture of the risk of depriving the country of doctors by pitching the examinations too high. Will Sir Lyon Playfair tell us what reason he has for stating without hesitation in the House that the waste of the profession is 1600 men? The Medical Register should be some authority on that point. The Medical Registrar is a careful man, and he is supposed to have the best information as to the deaths of registered practitioners. Registrars of deaths are bound by Act of Parliament to send him notice of all deaths of registered persons. Besides, his credit is at stake in being fairly accurate in his statistics. From these statistics we gather that the number of deaths of registered medical men—in other words, the waste of the profession—is between five and six hundred. In the last three years, 1881, 1882, and 1883 respectively, it was, according to the Register, 526, 522, and 530. Here, then, is a discrepancy of more than a thousand between the official Register and Sir Lyon's statement. The numbers of deaths in the Register may not, and doubtless do not, represent the entire deaths or waste of the profession. But it is inconceivable that the official roll is not much nearer the mark than Sir Lyon Playfair, whose great argument thus falls to the ground. Besides, the Register shows a steady increase in the number of persons registering annually. Thus, in 1881 1053 persons registered; in 1882, 1171; and in 1883, 1304—an increase which is confirmed by the competition in the profession and the obvious excess of practitioners in most places.

CHOREA AS A COMPLICATION OF PLEURISY.

A FEW years ago several cases of fatal epileptiform seizures following upon intra-pleural injections in empyema were recorded, especially in France. The subject has again been brought under notice by Dr. Weill of Lyons, who records a case where hemichorea was apparently excited in the same way (*Revue de Médecine*, July, 1884). A young man twenty-four years of age, whilst on military service was attacked with left-sided pleurisy, for which paracentesis was performed. Empyema followed, necessitating drainage and injections, and it was noticed that the left arm became weak immediately after the operation. A year later a second operation was performed, and six months afterwards M. Lépine, under whose care the patient was, deemed it necessary to have portions of the second, third, fourth, and fifth ribs resected. Two days after this operation the left upper limb became the seat of involuntary movements, and shortly after the left lower limb also. These movements were of a choreic character, and were associated with some hyperæsthesia of the hand and a certain degree of ataxy in the lower limb. The condition was attributed to the pleural irritation produced by the antiseptic injections

acting on the spinal cord, and thence affecting in a reflex manner the limbs of the same side. This idea of reflex irritation proposed by M. Lépine seems to M. Weill a very reasonable hypothesis, and it would appear as if there were functional and pathological connexions between the innervation of the pleura and that of the limbs of the same side, especially of the upper limb. The occurrence of radiating pain in angina pectoris, and of the shoulder pain in hepatic colic, are instances of a similar kind; and the fact that besides the severe and fatal convulsions excited by intra-pleural injections, there have also been recorded numerous instances of hemiplegia associated with like pleural conditions, justifies the notion that in the present case there is an example of chorea excited by the same path.

DENTAL SURGERY AT CAMBRIDGE.

A MEETING has been held at Cambridge of the Eastern Counties Branch of the British Dental Association, and the respective authorities granted the use of Merton Hall and the old anatomy theatre in the University for the various meetings. A dinner was held on the second evening in the Hall of Downing College, and Professor Humphry responded to the toast of the University of Cambridge. He said that the University and the town were glad to welcome the representatives of the dental profession and of an association for the advancement of science and the benefit of mankind. He referred to a practical point, the need of a dental surgeon on the staff of Addenbrooke's Hospital, and thought the governors would soon appoint one or more dental surgeons, and this would be a great benefit to the hospital and to the medical students. Professor Humphry also said that the Dentists Act had given a great deal of trouble to himself and his colleagues on the Medical Council. Several of the clauses were ambiguous, and, as there was a doubt, it had been found necessary to give a number of persons the benefit of the doubt, in spite of the protests of the Association. Notwithstanding these difficulties, which time would efface, Professor Humphry believed that the Dentists Act would prove of the greatest benefit to the public and the profession. He thought there could be no doubt that dental science and practice had made great advances even in the short time which had elapsed since the passing of the Act.

ELIMINATION OF IODIDE OF POTASSIUM.

A CAREFUL investigation into the modes and rate of elimination of so valuable a therapeutical agent as iodide of potassium cannot fail to be of interest, though the investigation may not be entirely novel. M. Desprez has made numerous analyses bearing on the subject, under the guidance of M. Lépine. The following facts have been ascertained by him. If a subcutaneous injection of four centigrammes of iodide of potassium be made in a healthy individual, the urine will be found to contain two-thirds, and sometimes more, of the salt injected. The urine passed twenty minutes after the injection always contains an appreciable quantity of iodide. The elimination by this path continues for forty-four hours. The rate of discharge sometimes decreases in a very regular manner, but frequently, and especially towards the end of the excretion, there is irregularity; so much so that at times the urine may be free from the salt, only to be followed by a period in which the iodide again makes its appearance. After the injection under the skin of nine centigrammes of iodide one-half the salt may be recovered in the urine. It appears to take but three hours longer for the larger quantity of the salt to be totally eliminated. The presence of fever does not have any influence as regards the quantity of the salt discharged, but it prolongs the duration of the process. If fever is accompanied by renal mischief, the quantity of the salt eliminated is lessened, and the time taken is diminished. In cases of cardiac weakness not associated with renal changes the elimination is greatly prolonged, though the amount ejected may remain the same. But if renal complication be added to the above conditions a less quantity is excreted. In Bright's disease the iodide takes some time to appear in the urine; the quantity eliminated may be reduced to a fourth, a fifth, or even an eighth, and, speaking generally, the time required for total elimination is longer.

THE INCREASED MORTALITY IN ENGLISH TOWNS.

THE Registrar-General's recent weekly returns show that the annual death-rate in twenty-eight of the largest English towns, with an aggregate population of nearly nine million of persons, which had averaged only 19·4 in the five weeks ending the 5th inst. (ranging from 18·7 to 19·8), rose successively to 22·2 and 24·0 in the two weeks ending 12th and 19th inst. These figures signify an excess of 1255 deaths in the twenty-eight towns during the past two weeks. Two simple facts will show how this increase was caused. The deaths attributed to diarrhœa in these towns during the past two weeks exceeded by 1163 the number that would have been recorded had they corresponded with the average number in the five preceding weeks. Moreover, the deaths from all causes of infants under one year of age, which had averaged 758 in the five weeks under notice, were 2913 in the two weeks ending the 19th instant. It appears therefore that more than the entire increase of deaths in these twenty-eight large towns occurred among infants under one year of age, and that nearly the whole of the increase was referred to the heading "diarrhœa." The annual death-rate from diarrhœa in these towns, which had averaged 1·0 and 3·0 per 1000 in the first two weeks of July, further rose to 5·0 in the week ending the 19th inst. No death was attributed to diarrhœa last week either in Brighton, Wolverhampton, or Plymouth; whereas the recorded deaths from this cause were equal to an annual rate of 5·8 per 1000 in Salford, 6·4 in Leeds, 6·6 in Nottingham, 6·8 in Preston, 6·9 in London, and 12·2 in Leicester. It will be noted that most of these towns are the same in which are recorded, year after year, the greatest waste of infant life from all causes as well as from summer diarrhœa fatality. It is still a grave problem how much of this mortality from infantile diarrhœa is directly due to causes within the control of sanitary authorities, and affecting what is generally understood by "sanitary condition"; but it can scarcely be disputed that very much of this waste of infant life is distinctly preventable by human agency, sanitary and social, and that its annual recurrence is the result of apathy and neglect.

HIGHBURY FIELDS.

THE action of the Islington Vestry in unanimously agreeing to advance half the reasonable cost of buying Highbury Fields, on the condition that the Metropolitan Board of Works advance the other half, has given great satisfaction not only in the immediate neighbourhood, but generally in the metropolis. The extension of London is an overwhelming problem. One thing is clear, that if sanitary disaster is to be averted and life is to be at all tolerable among its millions of toilers, open spaces such as that of Highbury must be maintained. The vestry of Islington is entitled to much credit for this action, and we heartily trust that the Metropolitan Board of Works will show equal regard for the interests and the health of this populous and important district of London.

EVASION OF THE VACCINATION ACT IN DEWSBURY.

THE Solicitor-General, a few days ago, brought an action on behalf of the Local Government Board against the Guardians of Dewsbury Union, in respect of their refusal to appoint public vaccinators for two districts under their charge. The offices in question were vacant a year ago; the guardians, disapproving of vaccination, neglected to fill them and received a request from the Board to discharge this duty. After a time vaccinators were reluctantly advertised for, applications were received and refused, and advertisement began again. On July 4th a last motion for the appointment of vaccinators was rejected, and the majority found courage to resolve that the letter of the Government Board "lie on the table," though even now their faint heart would accept a committee of inquiry. It should be noted that in their diplomatic opposition the guardians, like some others who think with them, did not act for themselves, but they denied a benefit to persons practically helpless who were committed to their care. The Court of Queen's Bench had of course no difficulty in supporting the Local Government Board in its demand. The subject which this case opens up is a large one, and we cannot in a single article cover it in all its bearings. This much is certain, that, under the influence of vaccination, small-pox, which once was justly dreaded like the plague, has become a languid and comparatively tolerable evil, and has greatly lost its epidemic character. It still remains among us, chiefly because evasions like those of the Dewsbury guardians have maintained a soil for its development. Further, in the presence of such evasion, we must emphatically assert that vaccination has brought with it no inherent evil or risk whatever. Cases of illness after it, as is well known, are rare in any class, though less so among the poor than the rich. Occurring after, they are apt to be ascribed to vaccination, to which they are not properly referable. Yet these have most unjustly been made the ground of much emotional opposition to its practice. Uncleanly habits, neglect, concurrent illnesses quite alien to small-pox or vaccinia, may have introduced accidental maladies, even though but seldom, yet this does not mar the value of vaccination or lessen the need for it. With as much, nay, with much more, reason might the railway or the street vehicle, with every branch of art and manufacture, be condemned to extinction. For vaccination, as for each of these, one cause, necessity, exists. So long as it exists they must continue; and accident must be met by care and forethought, not by blind denial of that necessity.

NURSES FOR THE SICK POOR.

ON the auspicious occasion of the opening of the new nursing home attached to the St. Marylebone Infirmary by H.R.H. the Princess Christian, we were kindly invited by the indefatigable and able medical superintendent, Mr. J. R. Lunn, to make an inspection of the whole of the magnificent buildings which are situate in an open and airy space within the view of all who leave town by the Paddington Station. We can testify to the curiosity which has been excited in the minds of uninitiated passengers on the Great Western Railway as to what the conspicuous pavilioned edifice might be. Whatever admiration may be called forth by a glimpse of the exterior of this hospital for the sick poor, that admiration suffers no diminution by a careful inspection of the interior and *personnel* of the said institution. Contrasted with the disgraceful state of affairs revealed by THE LANCET Commissioners prior to the Gathorne Hardy Act of 1867, it is no exaggeration to say that this infirmary is a perfect paradise, not only to our pauper fellow subjects, but also to those who have laboured in the field of Poor-law reform. The main object of the erection of the neat and excellent building on the south side of the infirmary is to provide accommodation for forty nurses and probationers. A separate bedroom has been allotted to each person, and we cannot praise too much the good taste and common sense which have guided the planning out of the domestic offices and other apartments of this model home for nurses. The guardians of the infirmary and Mr. Lunn deserve much commendation for their determination to provide this and kindred institutions with the means for the supply of a succession of well-trained nurses, and the council of the Nightingale fund have done well by co-operating in this good work. So much for the nursing of the sick and infirm paupers. But one other thought has suggested itself, though not for the first time, and that is the possibility of utilising in some measure the advantages which offer themselves in our infirmaries for the instruction of medical students. Here, in these institutions, is a collective mass of clinical and pathological material which it is not unfair or unwise to say cannot be made proper use of by the customary medical authorities of these sick populations.

THE VOLUNTEER HOSPITAL CORPS.

DURING the past fortnight the medical students who form this corps have shown themselves in considerable numbers in different parts. They have paraded twice, first in a battalion and then as a company, at Wimbledon Camp. In Hyde-park and at the Health Exhibition the public have had an opportunity of seeing the kind of work meant to be done. On Friday last the corps paraded before the Princess Louise and the Marquis of Lorne in St. George's Barracks, Trafalgar-square. The students to the number of seventy rank and file, besides officers, appeared in uniform, the same as that worn by the Army Hospital Corps. There are now about 350 men in the different hospitals who have been trained, but the process of getting into uniform is slow owing to each man having to provide his own. The proficiency of the corps is excellent, and under the command of Mr. Cantlie, with Dr. Squire as adjutant, the corps handles well.

TREATMENT OF NASAL POLYPUS.

DR. RICHARDSON, in the *Asclepiad*, recommends the use of sodium ethylate in the treatment of nasal polypus. The caustic agent is applied by means of a probe made of soft cotton-wool twisted into shape on the points of a pair of forceps. This cotton probe is saturated with the ethylate and then plunged into the substance of the polypus. On removing the cotton it commonly happens that the patient can expel the whole mass of destroyed polypus, in a semi-fluid form, by blowing the nose sharply. A second application ought to be made with a view of destroying the base of the polypus. The mode of action is said to be sufficiently clear. The ethylate is decomposed by contact with the water of the polypus into caustic soda and alcohol; the latter coagulates the albuminoids and the former acts as a powerful caustic. With the exception of some burning pain no unpleasant effects seem to follow the use of this method.

INDIAN BARK.

FROM an official statement of the trade of British India it appears that the exportation of drugs has doubled during the last five years. This increase is due to the development of trade in cinchona bark. Madras contributed most largely to swell the exports, the cultivation of cinchona in that presidency being more extensively carried on in private estates than in Bengal, where the principal "bark" estates are the property of the Government, which reserves a large

proportion of the bark produced for the local manufacture of the alkaloid. Most of the bark hitherto exported has come to London, but the demand from Italy for Indian bark is increasing. The local manufacture of the alkaloid above referred to is seriously affecting the import of quinine from Europe into India. It is believed that in time the supply of quinine from Darjeeling and the Nilgherries will meet all the wants of the Indian population.

THE DARENTH SMALL-POX CAMP LAWSUIT.

A LAWSUIT which bids fair to be one of extreme importance, and which may settle some, at least, of the points in dispute as to the influence of small-pox hospitals on the neighbourhoods in which they are situated, has entered on its first stage. The Metropolitan Asylums Board have, as is now well known, established two large camps at Darenth for the reception of a thousand convalescent and mild cases of small-pox, and these camps are about 700 yards distant from the estate and residence of Mr. Thomas Horn Fleet, who seeks for an injunction to restrain the Asylums Board from maintaining the camps there. The plaintiff alleges nuisance, the possibility of infection being conveyed as far as his house, and also injury to his property. The defendants, on the other hand, bring forward evidence to show that it would be impossible for small-pox to be conveyed through the air from the camp to Mr. Fleet's residence. The case having been partially heard, Mr. Justice Pearson explained that since it would be impossible, under any circumstances, to order the removal of the patients until ample time had been given for the preparation of other accommodation, no good would result from hearing the case for an interim injunction at this stage, and it was therefore ordered to stand over until it was fully ready for a hearing. If necessary, he added, the pleadings could be continued during the vacation. The trial, however, has been adjourned until November. This result is by no means to be regretted, for in the interests of science it is very important that the evidence to be brought forward on both sides should be very carefully selected. The opinions expressed before the Hospitals Commission as to the distance at which the small-pox poison could be conveyed aerially varied so widely as to show clearly that but little is as yet known on the subject. Indeed, we have reason to believe that Mr. Power's investigations are the only ones which have been carried out with strict scientific accuracy, and possibly his renewed labours may throw new light on this subject before the trial commences.

THE BRITISH MEDICAL ASSOCIATION.

THE fifty-second annual meeting of the British Medical Association will be held at Belfast on Tuesday next and the three following days. The President elect is Dr. James Cuming, Professor of Medicine in Queen's College, and physician to the Royal Hospital, Belfast. Dr. William Ord will deliver an address in Medicine on Wednesday, July 30th, Dr. Peter Redfern an address in Physiology on the following day, and Dr. G. H. Kidd an address in Obstetrics on Friday. There will be no address in Surgery. As usual, the proceedings will be diversified by excursions to various places of repute, in which the locality abounds.

BACTERIAL URETHRITIS.

THE number of varieties of inflammation of the urethra cannot properly be regarded as less than the number of inflammations of any other mucous surface. It has long been recognised by surgeons that intense urethritis is not necessarily of gonorrhœal nature. Neisser and others have described a micrococcus as the cause of gonorrhœa. Aubert has for some time past made a systematic examination of urethral discharges, and in three instances has found, instead of the gonococcus, a rod-shaped micro-organism. He has traced a resemblance between these bacteria and those found in pus from ulcerative balanitis. Although Aubert is inclined to regard the presence of the bacilli as indicating a different variety of urethritis, he wisely abstains from giving his positive adhesion to this view.

THE HOSPITAL SUNDAY FUND.

THE Distribution Committee is summoned to meet at the Mansion House on the 31st inst. The total amount available for distribution, after allowing sufficient for liabilities and the usual current expenses, is £31,283. Of this sum £29,026 is recommended to be apportioned to ninety-eight hospitals, and £2257 to fifty dispensaries.

OLEOMARGARINE.

WE have on previous occasions expressed our opinion in regard to the sale and use of substitutes for butter. The sale of such substances as genuine butter is a fraud, just as the selling of chicory under the name of coffee is a fraud. And the use of any disgusting or dangerous substance in the manufacture ought to be rigidly prohibited and severely punished. But much, at any rate, of the oleomargarine sold is merely purified animal fat incorporated with genuine butter. Such a mixture is better, as well as cheaper, than much of the common butter sold. If it were prohibited altogether, the price of butter would rise materially, to the great injury of the poorer classes. All that we contend for is that the public ought to know what they are buying and be prevented from buying anything noxious — *The Lancet.*

ON the 18th inst., the students of Charing cross Hospital assembled in the Upper Lecture Theatre of the Medical School, in order to make a presentation to Mr. J. Cantlie, the popular sub-dean, on the occasion of his approaching marriage. Dr. Corbould, a former student, occupied the chair, and he was supported by Mr. Canton, who preceded Mr. Cantlie as demonstrator of anatomy to the school. The presentation included a silver punch bowl and ladles.

THE plague is reported to be still raging in Bagdad and its vicinity. In Badra, where the epidemic took its rise, the mortality from the disease is stated to be enormous; but it is difficult to get at the real facts, in consequence of the efforts of the authorities to maintain secrecy.

FROM the report on the composition and quality of daily samples of the water supplied to London for the month of June, recently issued by Messrs. Crookes, Odling, and Tidy, it appears that the supply differed but little in character from the supplies of the preceding months.

WE are glad to learn that the Academy of Medicine of Paris has, on the report of Dr. Brouardel, unanimously voted that quarantine on land is impracticable in France, and that the process of disinfection at present imposed upon travellers and their luggage is inefficacious.

A LECTURE on the Rearing of Hand-fed Infants will be given at the Health Exhibition on August 1st, at 5.30 P.M., by Mr. E. Owen, of the Hospital for Sick Children. The chair will be taken on the occasion by Dr. Charles West.

M. CLOSMADEUC has recently performed the Cæsarean operation successfully both for mother and child. This makes his third operation and third success.

THE introduction of a Bill for the Regulation of the Sale of Patent Medicines has been abandoned for the present session. A measure with the same object in view has, however, been prepared, and will, it is understood, be brought in by Lord Carlingford next year.

THE Select Committee on the Ventilation of the House of Commons held its first meeting on Wednesday. It is said that the evil odours which have recently annoyed honourable members have been traced to a factory in the vicinity of the House.

THE French Government has conferred the Order of the Legion of Honour upon Professor Koch, in recognition of his services in connexion with the investigation into the causes of the outbreak of cholera.

PROFESSOR AEBY of Berne has been appointed to the Anatomical Chair of the German Medical Faculty of the University of Prague, and Professor Strasser is named as his successor at Berne.

MR. HOPWOOD has blocked the second reading of a Bill brought in by Messrs. Gray and Dawson, "to make better provision against cholera and other dangerous epidemic diseases."

A VERY satisfactory report of the Jamaica Public Gardens and Plantations for the year ending September, 1883, has been drawn up by Mr. D. Morris, M.A., F.G.S., the director.

MR. VICTOR HORSLEY, F.R.C.S., has been appointed Professor Superintendent of the Brown Institution in succession to Dr. Roy.

THE second reading of the Canal Boats Act Amendment Bill will be moved by Lord Carrington in the House of Peers on the 28th inst.

M. CORNIL has been elected a member of the Académie de Médecine.

THE CHOLERA.

M. PAUL BERT has concluded his series of articles on cholera, and winds up his remarks as follows:—"We must give up supposed precautionary measures, which are merely troublesome without being of use. As soon as the first cases of cholera appear in any place we must take energetic steps to prevent contagion being transmitted by the discharges of the cholera patient and the objects used by him. We must consume none but perfectly cooked food, and take no beverages but those into which the germ of the disease cannot have penetrated or in which it has been destroyed by boiling. We must avoid all occupations which enfeeble the body, and especially all which may disturb the functions of the bowels. Finally, we must not yield to excessive fear of this disease, which, all things considered, is less terrible, less murderous, and far more accessible to the influence of remedies than the mysterious and subtle diphtheria." Last week there were in Paris thirty-seven deaths from cholerine and two deaths from sporadic cholera, the victims in the latter cases being men of seventy-five, one of whom had been drinking much iced beer and brandy while weakened by indigence and uncleanliness. At Toulon the Government has remitted the punishment of most of the prisoners in the civil prison, and out of 150 about forty only are now detained. The committee on M. Paul Bert's Cholera Bill was nominated on the 19th inst. Of the eleven members, all, except M. Paul Bert himself, were adverse to the Bill, which has since been withdrawn. Dr. Ozimus has gone to Marseilles to study the epidemic there, and to make trial of a new mode of treatment—the administration of pulverised ozone.

At the meeting of the Academy of Medicine of Paris on the 22nd inst., a letter was read from Dr. Fauvel announcing that on regaining his health he will return to Paris and maintain against all comers that the epidemic is not Asiatic cholera. He urges that if the disease were contagious it would have established itself at Nîmes, Lyons, and other towns, where there have been only isolated cases. Dr. Guérin read a long paper with a view of showing that the distinctions drawn between different forms of cholera are purely arbitrary, the malady differing merely in intensity, and argued that the simultaneous appearance of cases in parts of Toulon and Marseilles quite remote from each other was inconsistent with the theory of importation. On the 23rd inst. the Dispensary Committee at Cork held a special meeting, and instructions were issued to the medical staff, with a view to more vigorous action. A house-to-house examination was ordered, and additional sanitary officers were appointed. Mr. H. Le Cronier, medical inspector for the town of St. Heliers, has written to a contemporary to dispel the fears which have been expressed as to the cholera, owing to insufficient sanitary precautions, becoming prevalent in the Channel Islands. During the twenty-four hours ending at 8 P.M. on the 23rd inst. the number of deaths from the disease at Toulon was forty-four and at Marseilles sixty. The situation at Arles is stated to be even worse, and fresh cases are reported from Aix.

At a meeting of the City Commissioners of Sewers on the 22nd inst., Dr. Sedgwick Saunders, the medical officer of health for the City of London, presented a lengthy and exhaustive report on the subject of cholera. An order has been issued by the Local Government Board prohibiting the landing at any place in England or Wales of rags exported from Marseilles or Toulon.

A series of precautions against the infection of cholera, typhoid fever, &c., drawn up by Dr. Taaffe, medical officer of health, are being issued in large numbers by the sanitary authority of Brighton.

SALT IN CHOLERA.

In the House of Commons, on the 7th inst., Mr. Justin McCarthy asked the Under-Secretary of State for India whether, considering the alarm throughout Europe at the spread of Asiatic cholera, and in view of the statement that there is a deficiency of salt in the blood of those dying of Asiatic cholera, and that a sufficiency of salt is not now partaken of by vast numbers of the natives of India, due to the Government tax, Her Majesty's Government will abolish the salt tax in India. In THE LANCET of August 23rd, 1834, Mr. George Beaman recommended common table salt dissolved in water for the treatment of cholera patients, and reported that he had by this method successfully treated eleven consecutive cases. The good effect, Mr. Beaman stated, depends on powerful vomiting being produced; should vomiting not occur, a second or third dose is required at intervals of five minutes. If the beneficial effect is not permanent, another dose must be given in twenty minutes or half an hour. On April 21st, 1855, we published a letter by Dr. Beaman on the "Salt Monopoly in India, the alleged cause of Cholera"; and in the same year Dr. Beaman addressed to Lord Panmure, at that time Minister of War, a letter, a copy of which appears in our issue for April 28th of that year, in which he repeats his eulogy of salt in the treatment of cholera, and concludes by urging the abolition of the salt tax in India. The fifty years that have elapsed since Dr. Beaman first wrote have not added much in favour of his recommendation, and although there is probably a certain diminution in the saline ingredients as well as in the water of the blood, it is now generally recognised to be futile to administer remedies which depend for their efficacy on the powers of absorption, so markedly lessened in this disease. Even the utility of saline injections direct into the blood channels has too often been found to be illusory, the temporary rally from a state of collapse being followed by a return of the purging with fatal issue. As Dr. Goodeve points out, in his article in Reynolds's System of Medicine, there have been found "no means of keeping the injected fluid within the vessels."

THE BERLIN PHYSICIANS AND CHOLERA.

The Berlin Clinical Society (Verein für innere Medicin) at the meeting on the 14th inst. discussed the subject of cholera. Dr. S. Guttmann opened the debate, and recommended the formation of a committee to collect and report upon the relative value of various therapeutic measures, and to consider what influence the discovery of the cholera

bacillus should have in the adoption of prophylactic and curative methods. An animated discussion followed, and a committee was nominated consisting of Drs. Leyden, Frãntzel, Klaatsch, Reiss, Goltdammer, Lehnert, Baer, Wernich, P. and S. Guttmann, and Guttstadt. Dr. P. Guttmann stated that accommodation for 500 cholera patients could be provided in the city hospital at Moabit. At the commencement of the sitting, Dr. Kronecker exhibited a newly devised apparatus for saline transfusion.

CHOLERA REMEDIES.

Not a day passes without the publication of suggestions for the treatment and cure of cholera; and it is remarkable with what a large measure of faith and credulity such measures are promulgated. It is not possible for us to print all the recommendations we have received, or to notice all those that are being advanced in other quarters. Amongst them may be cited the advocacy by M. Vigouroux of the employment of static electricity (*Progrès Médical*), on the ground of the production of ozone; the revival of calomel by Dr. Dornblüth of Rostock (*Deutsch. Med. Woch.*, July 17th); and of spinal ice-bags by Dr. Chapman. In the presence of so much conflicting advice the recommendations of the London College of Physicians will be looked for with interest, as well as with reliance that the treatment of the disease will be authoritatively laid down upon rational and satisfactory principles.

PRECAUTIONS IN EDINBURGH AGAINST CHOLERA.

On the 22nd instant, at a meeting of the Public Health Committee of the Edinburgh Town Council, it was ordered that all the present precautions against cholera, such as removing nuisances, washing out closes, cleansing stairs, and closing insanitary houses, should be continued. At this particular juncture it was pointed out specially that all cisterns for domestic use should be cleansed, and that in the process of cleansing soft brushes should be employed, lest the skin which forms on lead should be displaced, and thus give rise to the action of water on lead and its untoward effects. We have no doubt that under the skilful direction of Dr. Littlejohn, the medical officer of health for the city of Edinburgh, the above and many other points will be carefully attended to as a safeguard against the inroad of cholera. We would beg to offer the suggestion that the lodging and boarding houses in Edinburgh would be the better for an inspection into their sanitary arrangements. The main danger of the importation of cholera is probably from the direction of Leith by means of the shipping, and it is advisable that sanitary inspection of the vessels should be made, as well as cleanliness maintained, in that port.

CHOLERA AND THE BRINDISI ROUTE.

Owing to the prevalence of cholera on the Continent, the Brindisi passenger route to and from India has been closed, and we learn that this is causing no small amount of inconvenience, trouble, and annoyance to Indian officers returning home or going out to India, and among them there are not a few members of our profession. For them, every day in a short three months' privilege leave is a matter of considerable consequence. It is a pity that the Italian Government cannot be brought to see the futility of quarantine measures, at least in the absurd form in which they are carried out.

CHOLERA ON BOARD A LIVERPOOL BOUND SHIP; PRECAUTIONS AGAINST ITS SPREAD.

Our Liverpool correspondent writes:—"The steamer *St. Dunstan* arrived in the Mersey from Bombay on Thursday, the 17th inst., having called *en route* at Marseilles and remained there for some days. Previous to her arrival in Liverpool she put into Penarth Roads for orders, and reported that there had been sickness on board. In consequence of this information having been duly reported to the health authorities, the vessel was boarded shortly after her arrival by Dr. J. Stopford Taylor, the medical officer of health for the city and port. He found all on board in a very weak condition, two deaths having occurred on the passage from Marseilles. The first was that of John Cummings, fireman, who was taken ill on the 10th, the day after leaving Marseilles, with violent purging and cramp in the stomach. In spite of every attention and the best skill the master could give him he died the following afternoon, having been ill just twenty-one hours. On the 14th, one of the seamen, named Sulham, was taken ill with similar symptoms and died the following day. All on board suffered from choleraic diarrhœa, and at Dr. Taylor's visit were in a highly nervous state, as well as in a condition of great weakness and prostration. It transpired that the vessel was put into a dock into which a portion of the sewage of Marseilles was discharged, and the men noticed particularly at night a strong and offensive effluvium. On the sickness first occurring the captain most wisely decided to throw overboard all the stores and water obtained at Marseilles, and, humanly speaking, it is probable that this promptness prevented the disease from spreading further. Captain Brown, the port sanitary officer, remained on board on Thursday night, and on Friday she was again visited by Dr. Taylor and Dr. Hope, the assistant medical officer of health, who remained all that night. Seven of the crew who remained still unwell, and whose presence tended to alarm the rest of the crew, were removed to the port sanitary hospital (near Bromborough Pool, on the Cheshire side), by Dr. Taylor's advice. The *St. Dunstan* has been thoroughly disinfected, the water in the ballast tanks and bilge water being also disinfected before being pumped out. The seamen's beds have been destroyed and their clothing disinfected before their landing. The result has been that up to the afternoon of Wednesday last no fresh case has occurred, and the crew are quite well. In short, the measures adopted are models of what should be done if we wish to prevent any importation of cholera. Another steamer, the *Van Wraate*, has arrived in the Mersey, having called at Marseilles, but as no communication took place at the latter place, and none of the passengers or crew were infected, the vessel was allowed to enter dock.

REMOVAL OF THE SICK AND INJURED.

ON July 21st, Mr. J. FURLEY read a paper at the Health Exhibition on the Carriage and Removal of the Sick and Injured, of which the following is an abstract:—Until within the last ten or twelve years, the word "ambulance" was almost unknown in this country except in connexion with the Army Medical Service; but in 1870-71, through the efforts of the National Aid Society, more familiarly known as the Red Cross Society, it was so generally adopted in our language that it is now as much misapplied as formerly it was little used. People who are accustomed to think of invalid carriages, hand-litters, and stretchers as "ambulances," would be rather astonished to learn the War Office definition of an ambulance and all that it comprises in men, horses, carriages, medical and surgical stores, and camp furniture. In general hospital work Great Britain is on a level with, and in many respects in advance of, any other country in the world, but whilst much care and attention have been bestowed on the internal economy and hygiene of hospitals, comparatively little thought has been given to the manner in which sufferers are conveyed to them. What the National Aid Society accomplished in 1870-71 belongs to history. England was slow in following the example which had been set by other States, but the British Red Cross Society, when occasion called it into existence, gained in a few weeks a position second to that attained by no other country, not excepting the two powerful belligerents who then occupied the arena upon which all eyes were directed. What the St. John Ambulance Association has done during the last six years will fill a no less important page. This differs from the National Aid Society in one particular, that, whilst the latter followed, in its own vigorous and practical manner, examples which were the result of carefully matured thought and experience, the St. John Ambulance Association was a new creation, and no better testimony in its favour can be afforded than the fact that it has already been imitated in every part of the world, with more or less success, and notably by an institution which was originated at Kiel by Professor Esmarch, and is now flourishing in Germany under the title of the "Samariterverein." In the first hours after a great battle, or in the accidents of civil life, there is no more valuable knowledge than that which enables a man to improvise surgical appliances from anything he may find at hand; it is useful to the surgeon, and makes for him ready assistants in others. Except our own, there is not another country in Europe which has not during the last thirty years been more or less directly influenced by the realities of war; for all, if they have not suffered from its actual presence, have without exception

felt its cruel blast upon their frontiers. As a consequence of this experience, other nations have more fully realised that saddest part of war, the dead and the wounded scattered over vast battle-fields, the dressing stations where temporary relief is given, the field hospitals, and the long columns of waggons bearing hundreds of maimed men to the base of operations. All this and much more than it is necessary to describe in detail have, in a great measure, familiarised other European nations, and the United States of America, with military ambulance material and its uses, and civilians have vied with soldiers in the endeavour to keep the means of saving life and alleviating the sufferings of the wounded on a level with those means of destruction which military skill and scientific knowledge are ever striving to bring to perfection. The Exhibition held in connexion with the Red Cross Conference at Berlin in 1868, the important Ambulance Department of the International Exhibition at Vienna in 1873, the Hygienic Exhibition at Brussels in 1876, the Red Cross Exhibition at Geneva in 1882, the display at the Health Exhibition at Berlin in 1883, and the frequent meetings which have been held in Paris under the auspices of the Société de Secours aux Blessés Militaires have given great encouragement to this feeling, and much practical advantage has been derived from the trials and comparisons which were made of the means of hospital transport adopted by various nationalities. But in England no similar advantages have been enjoyed, and the number of surgeons and laymen who have taken part in these experiments is very limited. Had the ambulance group of exhibits in the present Exhibition attained that standard which continental critics might have expected, the fact would have been evident that we are beginning to realise our shortcomings, and we might have satisfactorily proved by demonstrations that we are not only taking lessons from the Continent of Europe and the United States of America, but that we are striking out paths of our own towards results which must have a world-wide influence. Ambulance work has a great future before it in England, more particularly as the country generally has not committed itself to any irretrievable steps involving considerable pecuniary sacrifice. Hitherto invalid transport, except at the cost of parishes, for short journeys to the workhouse or the hospital, has been limited to the rich. An attempt, however, should now be made to bring it within the reach of everyone, and to extend to all classes the benefit of change of air and scene when ill-health shall have made such change desirable; or when, as so often happens, a breadwinner is obliged to separate himself from his family because an invalid wife or child cannot be moved to a new home. Just in the same manner as it is mockery to recommend indigent patients when discharged from a hospital a diet of chicken, jelly, and port wine, unless it be provided for them, so it is useless to tell them to obey the doctor's instructions and seek change of air, unless such a possibility is brought within the means of the poorest.

WILLS OF MEDICAL MEN.

THE will, with two codicils, of Alexander Tweedie, M.D., F.R.C.P., F.R.S., of Bute Lodge, Twickenham, who died on May 30th last, was proved on the 24th ult. by Mr. Edward James Bevir, Q.C., Mr. Henry Daniel Bishop, and the Rev. Charles Creaghe Collins, the executors, the value of the personal estate amounting to upwards of £181,000. The testator, after making provision for his wife, daughter, and four grandchildren, bequeaths £1000 each to the British Medical Benevolent Fund and University College Hospital; £500 each to Charing-cross Hospital, the Royal Hospital for Incurables, Putney, the Great Northern Hospital, Islington, the Scottish Hospital Corporation, the Royal Infirmary, Edinburgh, and the London Fever Hospital, Liverpool-road, Islington; £100 each to the Richmond Hospital, the Artists' Benevolent Fund, London, the Foundling Hospital Benevolent Fund, and the City of London Truss Society; £100 to the Vicar and Churchwardens of East Twickenham towards completing the church, and numerous other legacies. As to the residue of his estate and effects, he leaves one-fourth to his daughter, Mrs. Hannah Cassel Collins, one-fourth each to his grandsons, Alexander Leslie Tweedie and George Straton Tweedie, and one-fourth between his granddaughters Isabella Leslie Tweedie and Ann Scott Tweedie.

The will of Frederick Appleton Sawtelle, M.D., of 129, Western-road, Brighton, who died on May 2nd last, at sea, was proved on the 27th ult. by Mrs. Flora Maria Robertson, the sole executrix, the value of the personal estate amounting to over £3600. The testator leaves his interest in a New York Life Assurance Society, to the amount of £1000, to Miss Emily Constance Wright, and subject thereto all that he dies possessed of to Mrs. Robertson.

The Irish probate, granted at Belfast, of the will and codicil of Cunningham Mulholland, M.D., of 41, Prospect-terrace, Belfast, who died on May 14th last, to Mrs. Letitia McDonald Mulholland, the widow, Cunningham Mulholland, the son, and the Rev. William Lowry Berkeley, the executors, was sealed in London on the 1st inst., the aggregate value of the personal estate in England and Ireland exceeding £2900. The testator leaves £100, his household furniture and effects, and an annuity of £60 to his wife; and life annuities to each of his children except his eldest son. All his real estate and the residue of the personalty he gives to his eldest son, the said Cunningham Mulholland.

The will of William Job Collins, M.D., of 1, Albert-terrace, Regent's-park, who died on May 10th last, was proved on the 19th ult. by Mr. W. J. Collins, the son, the sole executor, the value of the personal estate exceeding £1400. The testator leaves £500 to his son Edward Treacher Collins, and the residue of his property equally between him and his daughters, Mrs. Minnie Moor and Mrs. Anne Sarah Chipp.

The will of Henry Francis Williams, M.D., Deputy-Surgeon-General (retired) of Her Majesty's Indian Medical Service, late of Catherine Villa, Auckland-road, Southsea, who died on April 27th last, was proved on the 27th ult. by Mrs. Margaret Anne Williams, the widow and sole executrix, to whom he leaves everything of which he shall die possessed absolutely. The value of the personal estate amounts to over £1200.

The following legacies have recently been left to hospitals and other medical institutions:—Mr. William King, of 19, Ovington-gardens, who directs his executors to transfer to the treasurer or the trustees for the time being of St. George's Hospital, Hyde-park-corner, £100,000 Three per cent. Consolidated Bank Annuities for the purpose of endowing or of augmenting the endowment of such hospital, on condition that a ward in the said hospital shall for ever hereafter be called the "William King Ward."—Mr. James Carthew Quick, of 82, Marine-parade, Brighton, £1000 each to the London Hospital, Whitechapel, and the Sussex County Hospital, Brighton.—Mr. John Antoine Bradshaw, of 2, Alfred-terrace, Upper Holloway, the value of whose personal estate amounts to over £28,000, after giving thereout several legacies, divides the residue equally between twenty-two charities, among which are the East London Hospital for Children, the Royal Free Hospital, Gray's-inn-road, St. Bartholomew's Hospital, King's College Hospital, University College Hospital, the Middlesex Hospital, the British Home for Incurables, and the Royal Hospital for Incurables.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Diphtheria at Tichmarsh, by Mr. W. H. POWER.[1]—Tichmarsh is a village of some 900 inhabitants in the Thrapston rural sanitary district in Northamptonshire, and diphtheria, which made its appearance there in the spring of last year, lingered on throughout the summer, then underwent a sudden extension in October and November, declining again in the early part of this year. In all, nineteen cases terminated fatally. As in so many instances, this disease was preceded by sore-throats and colds of a sort that did not get recorded, and since cases occurring in Poor-law practice were absolutely withheld from the medical officer of health,

[1] To be purchased of Knight and Co., 90, Fleet-street; Shaw and Sons, Fetter-lane; Haddon, Best, and Co., Fetter-lane; and P. S. King and Son, King-street, Westminster.

but little information tending to explain the origin and sequence of the disease was forthcoming. When the disease was first known of, it seemed to be related to school attendance, but since the privies at the school alone appeared to present defects, attention was in the main centred on the village water-supply, and several wells having been subjected to analysis they were closed. When school work ceased during harvest time, the school was left closed for a considerable period, until all cases of distinct diphtheria had ceased; but attention being given exclusively to typical cases, and not to the minor attacks of sore-throat, the outbreak underwent a rapid increase when school operations were recommenced towards the end of September. No history of importation could be ascertained, and although locally the disease was regarded as related to certain cases of foot-and-mouth disease, yet this latter disease was at the time prevalent over a wide area, whereas the diphtheria was strictly limited to Tichmarsh. School attendance must be regarded as having influenced the spread of the affection, but it required something more than this; and as Mr. Power points out, it was not until the well-known season of normal extra activity of diphtheria—viz., October to November, that the disease appeared able to take full advantage of the conditions of school attendance for spreading itself amongst the village children. The main sanitary defects which have been revealed in Tichmarsh as the result of Mr. Power's inquiry are the total absence of any means of sewerage, and with this resort to wells, either sunk in the superficial soil above the oolite rock, or through it into a bed of clay below. Pollution of these wells is chiefly due to the circumstance that the water in the superficial rock is largely supplemented by the soakage of filth, and it is this condition which calls for special action on the part of the sanitary authority. Care should also be taken during the forthcoming autumn to get the earliest information as to any cases of sore-throat, so that the families in which they occur may be at once excluded from school attendance.

Diphtheria at Eversholt, by Dr. PARSONS.[1]—This is a village of 768 inhabitants in the Woburn Union, Bedfordshire, and it consists of some fourteen distinct hamlets or ends, where the public health is well looked after by Dr. Prior, the medical officer of health. The place has many natural and sanitary advantages, but it has, notwithstanding, since July, 1883, been the scene of a considerable and persistent prevalence of diphtheria, which up to the date when the inquiry was made had caused forty-one attacks and thirteen deaths. In considering the cause of the disease the influence of sewers and water-supply could be excluded, and since the milk-supply available was from several independent sources, and since some of those attacked never used milk at all, that vehicle of infection could also be set aside. There is, however, a strong probability that the infection was imported into the district by means of a boy who, living in a house where diphtheria had prevailed and who himself having had what was believed to be scarlet fever, came to stay at Eversholt, where his friends kept a public-house. Frequenters of this inn are stated to have been the first persons attacked. The disease was also limited to the parish of Eversholt, and this fact is strongly in favour of the theory that the cause of its propagation was solely personal intercourse; a parish being not a physical but a social division. Dr. Parsons traces the method of personal intercommunication, and, dealing at some length with the question of school influence, he finds from the facts which came under his observation that diphtheria must, like measles and whooping-cough, be regarded as infectious before the characteristic symptoms of the affection have become developed; and the persistence of the disease, in spite of the active measures taken by the sanitary authority for its prevention, is regarded as having been essentially due to the succession of mild and unrecognised cases. The persistence with which the infection of diphtheria is apt to attach itself to certain places is illustrated by the following instance:—In a house in one of the hamlets known as Church End several members of a family had been attacked with diphtheria in December, but in the course of January all had either recovered or died. The house was subsequently fumigated with burning sulphur, the wall paper stripped off, and the walls limewashed. The floors, which were old and irregular, were washed with carbolic soap. Infected articles of clothing were either burnt, washed, or fumigated. On February 8th a daughter came home from service with a bad finger, and on February 13th she was taken ill with diphtheria. She had slept in a room which had been occupied by the sick, but which had been purified as above described. She had noticed, however, a bad smell in the neighbourhood of the fireplace, where certain articles soiled by the sick had been burnt. Also a piece of list nailed around the door-frame to exclude draught had been allowed to remain. The list, which, from its position, would intercept particles floating in the air entering or leaving the room by the chink of the door, was found full of dust.

[1] Vide footnote on previous page.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 6018 births and 4031 deaths were registered during the week ending the 19th inst. The annual death-rate in these towns, which had been equal to 19·5 and 22·2 per 1000 in the two preceding weeks, further rose last week to 24·0, and exceeded the rate recorded in any previous week of this year. This increase was entirely due to the fatal incidence of infantile summer diarrhœa. During the first three weeks of the current quarter the death-rate in these towns averaged 21·9 per 1000, against 18·9 and 20·6 in the corresponding periods of 1882 and 1883. The lowest rates in these towns last week were 14·0 in Bristol, 15·2 in Huddersfield, 15·7 in Portsmouth, and 16·4 in Hull. The rates in the other towns ranged upwards to 27·3 in Leeds, 27·8 in Preston, 29·2 in Nottingham, and 34·6 in Leicester. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 572 and 876 in the two preceding weeks, further rose to 1257 last week; these included 838 from diarrhœa, 129 from whooping-cough, 117 from measles, 83 from scarlet fever, 36 from "fever" (principally enteric), 29 from diphtheria, and 25 from small-pox. No death from any of these diseases was registered last week in Wolverhampton, while they caused the highest death-rates in Leeds, Nottingham, London, Preston, and Leicester. The greatest mortality from diarrhœa, mainly infantile, was recorded last week in Leeds, Nottingham, Preston, and Leicester; from whooping-cough in Sunderland and Liverpool; from measles in Blackburn and Liverpool; from scarlet fever in Cardiff and Brighton; and from "fever" in Plymouth. The 29 deaths from diphtheria in the twenty-eight towns included 19 in London, 5 in Nottingham, and 2 in Leeds. Small-pox caused 30 deaths in Greater London, 1 in Sheffield, and 1 in Liverpool. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had been 1368 and 1241 on the two preceding Saturdays, had further declined to 1152 at the end of last week; the number of new cases admitted to these hospitals also declined to 141 last week, from 266 and 179 in the two preceding weeks. The Highgate Small-pox Hospital contained 68 patients on Saturday last, against numbers declining from 90 to 79 on the four preceding Saturdays; only 8 new cases were admitted during last week, against 20 and 18 in the two previous weeks. The deaths referred to diseases of the respiratory organs in London, which had been 231 and 206 in the two preceding weeks, further declined to 177 last week, and were 8 below the corrected average. The causes of 75, or only 1·9 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Birmingham, Portsmouth, Hull, and in three other smaller towns. The largest proportions of uncertified deaths were registered in Wolverhampton, Birkenhead, and Oldham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been equal to 21·8 and 21·0 per 1000 in the two preceding weeks, rose to 22·8 in the week ending the 19th inst., and was 1·4 below the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 15·9 and 17·5 in Aberdeen and Edinburgh to 27·3 in Leith and 27·7 in Paisley. The 549 deaths in the eight towns included 57 which were referred to diarrhœal diseases, 26 to whooping-cough, 11 to "fever," 11 to diphtheria, 7 to scarlet fever, 4 to measles, and not one to small-pox; in all 116 deaths

resulted from these principal zymotic diseases, against 78 and 87 in the two preceding weeks. These 116 deaths were equal to an annual rate of 4·8 per 1000, which was 2·7 below the mean rate from the same diseases in the twenty-eight English towns. The deaths attributed to diarrhœal diseases, which had been 13 and 32 in the two previous weeks, further rose to 57 last week, and were 30 above the number returned in the corresponding week of last year; they included 34 in Glasgow, 7 in Edinburgh, 5 in Dundee, and 5 in Paisley. The rate of mortality from diarrhœa in the Scotch towns last week was, however, very considerably below that recorded in the large English towns. The 26 fatal cases of whooping-cough in the Scotch towns showed an increase of 3 upon the number in the previous week, and included 13 in Glasgow, 5 in Edinburgh, and 3 in Dundee. Ten of the 11 deaths from "fever," and 6 of the 7 from scarlet fever, were recorded in Glasgow, the mortality from "fever" in this city showing a marked increase compared with the returns for recent weeks. The 11 deaths referred to diphtheria in the eight towns showed an increase upon recent weekly numbers, and included 4 in Glasgow, 3 in Edinburgh, and 2 in Dundee. The 4 fatal cases of measles, of which 2 occurred in Glasgow and 2 in Dundee, showed, however, a further decline from the numbers in recent weeks. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 83 and 54 in the two previous weeks, were 66 last week, and within 3 of the number returned in the corresponding week of last year. The causes of 89, or more than 16 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 21·0 and 22·3 per 1000 in the two preceding weeks, was 21·9 in the week ending the 19th inst. During the first three weeks of the current quarter the death-rate in the city averaged 21·7 per 1000, the rate during the same period being equal to 23·2 in London and only 17·4 in Edinburgh. The 147 deaths in Dublin last week showed a decline of 3 upon the number in the previous week, but included 24 which were referred to the principal zymotic diseases, against 18 and 13 in the two preceding weeks; 7 resulted from "fever" (typhus, enteric, or simple), 6 from whooping-cough, 6 from diarrhœa, 5 from scarlet fever, and not one either from small-pox, measles, or diphtheria. These 24 deaths were equal to an annual rate of 3·6 per 1000, the rate from the same diseases being 9·9 in London and 3·2 in Edinburgh. The deaths referred to "fever" in Dublin, which had been 2 and 5 in the two previous weeks, further rose to 7 last week. The fatal cases of scarlet fever and whooping-cough each also showed an increase of 2 upon the respective numbers in the previous week. The deaths attributed to diarrhœa, which had been but 3 in the previous fortnight, rose to 6 last week. Only 1 inquest case and 2 deaths from violence were registered; the 60 deaths recorded in public institutions showing, however, an increase. The deaths of infants showed a decline from the number in the previous week, while those of elderly persons remained stationary. The causes of 14, or nearly 10 per cent., of the deaths registered during the week were not certified.

Correspondence.

"Audi alteram partem."

CHOLERA.

To the Editor of THE LANCET.

SIR,—In sending you the brief extracts from my official reports on the Cholera Epidemic of 1853, and which were republished in THE LANCET of July 5th, I purposely refrained from comment, with the belief that any remarks in explanation were unnecessary. From what has appeared, however, I am not sure that this is the case. From a perusal of those extracts it is evident that the so-called vibriones are none other than the cholera bacilli of Koch, the discovery of which is all but universally attributed to that distinguished observer.

In THE LANCET of July 12th, under the heading "Dr. Tommasi-Crudeli on Cholera," the following statement occurs:—"Dr. Filippo Pacini of Florence, who died just a year ago (see THE LANCET, July 21st, 1883), in 1854 was the first to recognise the cause of cholera in a microscopic organism which Dr. Tommasi-Crudeli in 1882 classified amongst the germs which multiply by division, &c." Whether I or Pacini was the first to observe the bacillus in question I have at present no means of determining. I would remark, however, that while I recognised the importance of this discovery I did not go the length of describing it as the cause of cholera.

But my object in addressing this communication to you is not merely to bring forward my own claims in the matter, but to urge my views of what I think should be one of the chief objects of the rational treatment of this disease. As I pointed out in the quotations from my report, the bacilli abound even in the secretions of the small intestines; that these sometimes are more or less decomposed and offensive, and that they are alkaline; that, in fact, in the intestines all the conditions exist which are highly favourable, or rather, I should say, are necessary, to the development and multiplication of those and other allied species of bacilli. One of those conditions is the presence of nitrogenous matter, and another the alkalinity of the liquid. I had elsewhere previously shown that while many fungi will not grow in alkaline fluids, bacilli, formerly known in most cases as vibriones, will not grow in decidedly acid liquids.

In these facts it seems to me that we are furnished with rational principles of treatment. One of these is to lessen, and if possible to abolish, the alkalinity of the rice-water-like secretions of the intestines, while another is to put a stop to their putrefactive changes. For these purposes a rigidly acid treatment should be carried out. The patient should drink water which has been boiled and strongly acidulated with sulphuric acid, as much acid being taken as can be borne, the reaction of the dejections being carefully watched. Ten- and even twenty-minim doses of the dilute acid I believe to be worthless, however frequently administered. This acid treatment may be combined with the employment of antiseptics, as creasote or carbolic acid, and perhaps better still with thymol, since it is a nervine stimulant, and not a depressant like carbolic acid. The acid and the disinfectant might be in part given by the rectum. The secretions of the alimentary canal being rendered acid, there would, I anticipate, be little to apprehend from the cholera bacillus; its growth would be greatly hindered, if not stopped, and with this arrest of its development the poison would cease to be generated with the formation of which it is credited.

I see by your report from Paris that the treatment of cholera at Toulon consists mainly of the hypodermic injections of ether in the stage of prostration, of atropine to relieve cramps and spasms, and the inhalation of oxygen for threatened coma. This treatment deals simply with certain prominent symptoms, and is merely palliative. Surely the time has now arrived for the formulation of some sound plan or system of treatment, not directed against isolated symptoms mainly, but against the general conditions of the disease, the state of the alimentary secretions and the presence of the cholera bacillus.

I remain, Sir, your obedient servant,

ARTHUR HILL HASSALL, M.D. Lond.

San Remo, July 16th, 1884.

To the Editor of THE LANCET.

SIR,—Allow me to controvert the idea that fresh fruit is injurious at this season, or has any but the most indirect relation to the prevalence of diarrhœa.

A hot summer mostly gives us good and cheap fruit. The severity of our summer diarrhœa is in proportion to the heat of the season, but it is those who seldom or never eat fruit who die from diarrhœa. For every twelve deaths from this cause ten are of infants under two years of age. It is a remnant of the crudest hygiene to prohibit fruit at all in hot seasons and climates. It is a still worse error to make exception to the character of the soil on which fruit is grown. Last week I stated in your columns that crystals of oxalate of lime would not pass from vegetable food into the absorbents and through the capillaries of the human body. I now have to protest against the possibility that any of the microscopic algæ or their spores can be absorbed by growing vegetables, increase in their tissue, or in any way penetrate into fresh fruit. Yet not only has M. Paul Bert, who is generally above superstitious influences, lent support to this theory, but Professor Nothnagel and

Dr. Hoffmann of Vienna are said, in a *Times* telegram of July 21st, to declare that vegetables grown on an unwholesome soil are propagators of cholera. This statement is, up to the present time, entirely unsupported by any facts made known or ever submitted to scientific criticism. Are we again to return to the old views of the connexion between diarrhœa and the plum season, and be asked to believe that this high-growing drupe should, in ripening, attract bacilli to enter the roots of the tree and ascend its branches? If so, let us also be careful of this year's vintage from the south of France, and, though it may rival 1874 in quality, leave its enjoyment to those who a few years hence will not fear lest a cholera bacillus should have entered the grape. The only caution needed for fruit, as for other ingesta, in choleraic times, is to avoid excess, and to see that all is sound, clean, and fresh.—I am, Sir, yours truly,

WILLIAM SQUIRE, M.D., F.R.C.P.

Orchard-street, Portman-square, W., July 23rd, 1884.

To the Editor of THE LANCET.

SIR,—At this time, when our sanitary authorities will naturally wish to avail themselves of the experience of recent outbreaks of cholera, I take the liberty to call attention to the excellent volume devoted to the epidemic of 1873 in the United States of America, and issued from the Government Printing-office, Washington, in 1875. The full title-page of the book is as follows:—

"War Department, Surgeon-General's Office.

"*Cholera Epidemic of 1873 in the United States.*

"Reports prepared under the direction of the Surgeon-General of the Army:—(*a*) History of the Cholera Epidemic of 1873 in the United States, by Ely M'Clellan, M.D., Assistant-Surgeon, U.S.A.; (*b*) History of the Travels of Asiatic Cholera, by John C. Peters, M.D., of New York City, and Ely M'Clellan, M.D., Assistant-Surgeon, U.S.A. (*c*) Bibliography of Cholera, by John S. Billings, M.D., Assistant Surgeon, U.S.A."

This book, I understand, was generously distributed to sanitary authorities in this country, and even to individuals on special application. It is rich in facts, warnings, and lessons, which cannot fail to be appreciated in the present position of affairs. I am anxious that, among the many excellent works on cholera, the valuable gift of our American brethren should not be overlooked.

I remain, Sir, your obedient servant,

JAMES W. ALLAN.

City of Glasgow Fever Hospital, Belvidere, July, 1884.

"THE PHYSIOLOGY OF THE FEET."

To the Editor of THE LANCET.

SIR,—Mr. Allen's letter in THE LANCET of July 5th, which I am sorry not to have seen in time for a reply in your next issue, refers to a point in my paper already brought forcibly to my notice. To my opinion I adhere. Mr. Allen imputes to me the supposition that in walking the toes do first touch the ground. I stated that they should do so. I do not think that this is a "common error"; I find that everyone I ask says at once that the heels must touch the ground first. I am, however, glad to hear that the contrary is taught by "some very good physiologists." While granting that, as a rule, the ground is touched first by the heels in walking with boots, yet I have found that in walking barefooted the toes first reach it. This is certainly so in my own case, and I do not think that, if seen so doing, I should "be supposed to be practising a burlesque step for the stage." But even if it did so seem, that would not prove the form of step to be wrong from a physiological point of view, for it will, doubtless, be admitted that a question of physiology can be settled only by reference to nature, without regard to conventional notions of walking, good or bad, as done now, after many generations who have habitually worn boots more or less interfering with perfect exercise of the functions of the feet. The use of any kind of foot-clothing cannot be presupposed. The human foot, even in savage life, never attains the hardness of sole necessary to make the character of the ground trodden on a matter of indifference in anything like the same degree as in animals provided with hoofs; yet man, in a state of nature, has to tread where his feet are liable to injury, as on broken sticks hidden by verdure or on rocky ground, perhaps in darkness.

It must then, I think, be conceded that, under the conditions given, it is desirable that the part of the foot which first touches the ground should be the part best calculated to estimate the character of the surface to be trodden on; and, further, that the part which last reaches it, as the weight of the body falls fully on the single foot, should be the part least liable to sustain injury, and most easily withdrawn from the ground if it meet, at that point, with any projection of an injurious character.

Now, if the toes, spoken of in the paper as the organs of feeling, and the anterior part of the foot, more sensitive than the heel, first touch the ground, the character of the surface is better estimated, and if the heel as it falls does happen to come on a sharp point, it is easily and momentarily raised, and, the tiptoe position being attained, injury to the heel is avoided. On the other hand, if the heel first touch the ground, not only does the want of sensibility prevent so accurate an estimate of the character of the surface, but worst of all, if, as the body falls forward to be borne on the single foot, the more sensitive part in front should happen to come on a sharp point, there is no recovery. To spring back into a position resting on one heel only is well-nigh impossible. As an exaggerated illustration of my meaning, let anyone try to walk with closed eyes and bare feet across a room where tin tacks have been purposely strewed. I can do it easily walking in the former manner, and bring the heel to the floor in each step. I would rather not try in the latter mode. Of course the movements extremely marked in this experiment would be scarcely perceptible under ordinary conditions. I suggest, however, that in principle they should be identical.

Mr. Allen says that "when the foot is put forward the heel is the part nearest the ground." If the foot in swinging forwards attain fully, as I think it should do, that which I have called "the position of rest," and defined as that of least tension and least pressure, least tension of the ligaments on the bones forming the joints, and least pressure of the bones on each other, or the mean between the extremes of motion, then, to attain this, the foot falls into an extended position with regard to the leg, thus bringing the toes nearest to the ground and ready to feel it. This position, too, allows of the widest range of lateral movement, useful at times, selecting the exact spot to be trodden on. The toes are kept free of the surface by bending the knee, in effect also resting that joint, previously strained by straightening.

On these grounds, as well as the avoidance of concussion, friction, or slipping, I have no doubt that, in walking, the toes should first touch the ground.

I am, Sir, yours faithfully,

Gloucester, July 14th, 1884. T. S. ELLIS.

MANCHESTER.

(From our own Correspondent.)

THE RECENT RAILWAY ACCIDENT.

THE public journals will have informed your readers of the terrible railway accident which occurred on the Manchester, Sheffield, and Lincolnshire Railway last week near Penistone. On receipt of information of the catastrophe at London-road Station surgical assistance was sought at the Royal Infirmary, and some of the resident staff were despatched by train to the scene of the accident. More than twenty were killed on the spot, whilst twenty-three of the more seriously injured were brought on to the Manchester Infirmary, and for a short time the resources of the hospital were taxed in providing immediate assistance and attention to the sufferers. Two died a few hours after admission; one, a young lady, had amputation of the thigh performed, but succumbed shortly after the operation. Three of the cases still remain in a critical condition, two of them being cerebral injuries; the patients, one a man the other a woman, remained unconscious until Monday last. They are now slowly regaining consciousness. The third is a fracture of leg with compound dislocation of the ankle, and will require amputation as soon as the condition of the patient will permit. Amongst the injured lying at the infirmary is a man of some local celebrity named Rawlings, known as the "Reddish Doctor," and famed as a curer of cancers.

LAW AND MEDICINE.

On Monday last, at the assizes now being held here, Mr. Justice Day made some remarks upon the evidence given by medical witnesses, which, to say the least, were uncalled for if not unjust, for, as one of the local papers put it, "it is highly undesirable that so much contempt should be expressed for scientific evidence without a stronger reason than in this case is apparent." In summing up to the jury, at the conclusion of a case in which a man was upon his trial for the murder of his father, the judge is reported to have said:—"You must sacrifice your own views and your common sense. You are bound by what the doctors say. No one but a doctor knows or could have any doubt about it; but juries must be guided by their evidence, and you must acquit the prisoner. Although it is proved to your satisfaction that from the time this man was struck he gradually lingered and then died, if the doctors say the blow had nothing to do with the death you must acquit the prisoner. You cannot convict on this evidence. I can very well understand, even where a man's life is at stake, the reluctance you feel at stultifying yourself by giving such a verdict. After what you have heard from the counsel for the prosecution and this doctor, you would not be justified in finding this man guilty of murder, although I am sure, as men of common sense, you are satisfied of it. Nobody can doubt it, except these doctors." The main facts of the case and evidence which led to the above remarks were as follows. On May 17th, the prisoner Joseph Saxon, aged twenty-five, struck his father, the deceased, who at the time was in his usual health, a violent blow upon the head with a hammer, with the avowed intention of killing him. The wound was at once attended to at the Ardwick and Ancoats Dispensary, and two of the surgeons there, Mr. Scott and Mr. Webster, could detect no fracture, and considered the wound not of a serious nature. The man in a day or two was again able to work, and the son was sentenced to two months' imprisonment for a common assault. On May 23rd the deceased man felt worse, and went to the surgery of Dr. C. Smith, who, with his son, examined the wound, and found it still unhealed, but there were now symptoms pointing to some cerebral lesion. The man rapidly became worse, hemiplegia and coma coming on, and he died on the 26th, nine days after the receipt of the original injury. At the necropsy a slight depression of the inner table of the skull was found beneath the seat of the wound, but little or no hæmorrhage or other injury to the brain substance beneath; but in one of the ventricles a large quantity of blood was found, with a clot the size of a hen's egg. To this hæmorrhage there was no doubt death was due, but as counsel for the defence brought out in cross-examination, it could not with certainty be said whether this hæmorrhage had any direct connexion with the blow received or not. The clinical symptoms appeared rather in favour of the negative view, and the defence set up was that death was caused by an apoplectic seizure coming on six days after the blow was given, and due to violent excitement and passion, which it was shown the man gave way to just before the symptoms of apoplexy came on. From these facts most of your readers will agree that there was room for considerable and justifiable doubt whether the hæmorrhage, which undoubtedly caused death, was directly connected with the blow inflicted on the 17th, and that no medical man could have sent a fellow creature to the gallows without more convincing proof of the cause of the apoplexy than was forthcoming.

Dr. Roscoe, Professor of Chemistry in Owens College, has recently had the honour of knighthood conferred upon him in recognition of his services in connexion with the Technical Education Commission, though, doubtless, his European reputation as a chemist had also something to do this mark of distinction being offered to him.

The first public intimation of the above was made by Mr. Mundella, M.P., during his late visit here for the purpose of opening a new Board School for higher grade scholars, which he declared to be one of the most complete institutions of its kind in the kingdom; and a new museum lately built by the corporation in Queen's Park, which lies to the north-west of the city, and is a most admirably adapted building for the purpose for which it is intended. The museum is at present largely filled with objects and art treasures lent by the Government from South Kensington. Its situation, near a densely populated part of the city, reflects great credit upon the corporation, who certainly are in many ways attempting to provide for the masses of the people healthy and instructive recreation.

Allusion was recently made in these columns to the fact that the Medical Department of Owens College was likely soon to lose the valuable services of Dr. Gamgee. Although he will no longer be dean of the school, arrangements have been made by which for the present he will devote some of his time to the work of the College, retaining the Professorship of Physiology, whilst an additional assistant in the physiological laboratory will be appointed to aid in the practical work of the students there. It is rumoured that Dr. M. Watson, Professor of Anatomy, will succeed Dr. Gamgee as dean.

On Degree Day of the Victoria University there was a large attendance of visitors, including many ladies and old associates of the college. Degrees in Arts and in Science were conferred by the Vice-Chancellor, but none yet in Medicine, though it is expected that at the next ceremonial there will be several medical graduates in the pass list.

IRELAND.

(From our own Correspondent.)

ROYAL COLLEGE OF SURGEONS IN IRELAND.

A MEETING of the Fellows was held last Monday for the purpose of electing a vice-president in the vacancy caused by the resignation of Mr. Corley, who is a candidate for the Professorship of Surgery, and was obliged to resign office in order to qualify for the appointment. There were two candidates—viz., Dr. Cameron, a professor in the College School and superintendent medical officer of health for Dublin, and Mr. Ormsby, surgeon to the Meath Hospital. The latter opposed Dr. Cameron because he was of opinion that a surgical corporation should be represented by a practising surgeon, and, as a general rule, no doubt such should be the case. But Dr. Cameron, although he does not practise surgery, yet is a distinguished pathologist, histologist, and analytical chemist, and is the leading authority in Ireland upon sanitary science, and has rendered valuable services to the citizens of Dublin in his capacity as medical officer of health. For these and other grounds the Fellows supported him, and he was returned as vice-president by a very large majority. At the same meeting an election for a member of Council took place. For this there were four candidates, Mr. Austin Meldon being successful by a majority of seven votes. The election to the Professorship of Surgery in the College takes place this week, when Messrs. Corley and Hamilton compete for the vacancy. It is expected to be a very close contest, and that two or three votes may decide the matter. Mr. Edward Hamilton, ex-vice-president, has been elected Professor of Surgery in the medical school of the college.

PRECAUTIONS AGAINST CHOLERA IN DUBLIN.

The superintendent medical officer of health (Dr. Cameron) has had several interviews with the Local Government Board in reference to the necessary measures to be adopted in case the cholera should become epidemic. The Board are prepared to constitute the corporation the sole authority under the 149th clause of the Public Health Act, and under its provisions they will have power to erect hospitals, appoint physicians, and arrange for a house-to-house visitation. The Public Health Committee have held a special meeting, and have recommended the corporation to accept the responsibility. The College of Physicians have reissued a memorandum in reference to the disease, and state that an isolated intercepting hospital containing twenty beds should be prepared within a convenient distance of the river. As regards the difficulty of procuring sites for cholera hospitals, it will be removed by the Cholera Hospitals Bill, which is now before Parliament, should it become law.

AT the recent meeting of the Council of the London Society for the Prevention of Cruelty to Children, it was announced that Lord Shaftesbury had accepted the presidency of the Society.

THE University of Heidelberg is about to celebrate its five hundredth anniversary. The Baden Parliament has voted £8000 to meet the expenses of the occasion.

PARIS.

(From our own Correspondent.)

THE CHOLERA EPIDEMIC.

THE Academy of Medicine, consulted by the Minister of Commerce as to the utility of the measures taken to prevent the spread of cholera, has advised the Government as follows:—(1) Land quarantines intended to prevent the spread of cholera epidemics are impracticable; (2) the means of disinfection now taken at certain railway stations are inefficacious and delusive; (3) the prophylactic measures which are really useful are such as are dictated by general hygiene, particularly those which diminish overcrowding in contaminated places and those which isolate the sick. As regards the progress of the epidemic, no one can pretend to know with certainty more of what happens in Paris than the authorities choose to allow to transpire; but if official statements are true, the sanitary condition of the city is excellent, and up to the present time no cases of Asiatic cholera have occurred in the Paris hospitals. The Directeur de l'Assistance Publique has made a statement to the Municipal Council to this effect, and it now appears that the patients reported as choleraic during the last few days in the papers were simply subjects of diarrhœa and other gastric disturbances. The mortality caused by the epidemic in the South during the last week has somewhat increased in Toulon, whilst at Marseilles it remains stationary. Isolated cases have occurred at various other places; but, with the exception of Arles, there are as yet no new cholera centres. The following figures represent the death-rate of last week:—

July.	Toulon.	Marseilles.	Arles.
15	25	69	0
16	38	53	0
17	38	56	4
18	31	58	6
19	49	65	7
20	42	57	12
21	43	61	8

It is a pity that there is not a little more uniformity of opinion amongst medical men generally as to the proper treatment of the disease; but the fact is, *quot homines tot sententiæ*, and such a state of things is not likely to have a beneficial effect upon the public. Considering the diversity of opinion which exists even on the most elementary points, many of the lower classes will prefer to try the popular remedy, of getting drunk or of drinking lemon juice, &c., rather than apply for help to the orthodox practitioners. It is thought that contaminated drinking water is a means of propagating cholera, and instructions have been issued to the people to boil all that is intended to be so used. No such thing, says M. Colin; such an opinion is entirely erroneous, and can only serve to give false security. It is of the utmost importance, says M. Jules Guérin, to check the premonitory diarrhœa. Of 130,000 patients so treated in London, only 250 had cholera, although 6000 were bordering on the characteristic symptoms of the disease. On the contrary, opines M. Rabuteau, it is better to begin with a purge of sulphocarbolate of sodium, after which astringents, and particularly the tannates of alumina, bismuth, and magnesia, should be used. M. Barq, who has spent his whole life studying the subject, has presented another memoir to the Academy of Sciences to indicate the merits of copper as a prophylactic of cholera. Curiously enough, a telegram recording two deaths in the South, attributes them to the victims having partaken of food prepared in a copper vessel.

THE PATENT MEDICINES STAMP.

The question of the repeal of the Patent Medicines Stamp Act being now before the public, I may remind your readers that an inquiry upon proprietary medicines in France is still pending. Two or three years since, as I reported in THE LANCET at the time, the subject was discussed at the Academy of Medicine, and some of the most eminent pharmacists expressed the belief that it would be better, with perhaps some few exceptions, to abolish patent medicines altogether. The different wines of pepsine came in for special obloquy, as many of them were found to contain scarcely a trace of the active principle; a then popular preparation of iron also received its death-blow. Whatever may be the state of things in other places, such a reform would be a great benefit to the pharmaceutical profession at large in France. The numbers of specialities which are prescribed make private prescriptions quite a rare windfall in a Paris pharmacy, and competition is so great that, although patent medicines are generally high priced, and supplied to the retail chemists at 40 per cent. discount, the vendor is obliged to make a large reduction on the marked price to attract custom, and so gets but small profit. By abolishing the traffic altogether, a few large speculators would go to the wall, but the prosperity of the profession as a whole would be greatly increased. As the law now stands, any chemist may devise a speciality without going through any formality or paying any stamp duty. He may of course supply it to the trade, but if he retails it without a prescription he does it at his own risk and peril, the sale being tolerated when the medicine is of an inoffensive character, but rendering him liable to prosecution if this condition is infringed. Legally the chemist has no right to sell without a prescription anything but a few drugs and chemicals. The sale of an emetic or of castor oil on his own account renders him liable to prosecution; and although, as has been stated, no stamp or formality is required for patent medicines, their sale is only tolerated, and could be prevented in any case.

PREPARING FOR CHOLERA IN PARIS.

(From a Correspondent.)

The cholera more than ever engrosses public thought, and in medical circles is the principal, if not the only, subject of discussion. Nor is this solely a matter of conversation. Two notable measures have been adopted. Dr. Dujardin-Beaumetz, Member of the Council of Hygiene and Salubrity for the department of the Seine, is organising throughout Paris a sanitary service. Medical officers of health are now being appointed for every district. Orders are given that any illness of a choleraic nature must be reported at once to the nearest police station. The prefect of police is then communicated with by telegraph, and the medical officer is ordered to superintend personally the disinfection of the house where the case is reported. But the question arises as to what is meant by the term disinfection, and who is to do the work which these newly created medical officers are called upon to superintend. So far either policemen or firemen have been employed; and, on the whole, a distinct preference is shown for the latter. They are brave, active, and accustomed to constant alarms; on the other hand, they are young men, very susceptible to contract diseases, and may possibly infect the barracks in which they live. The term disinfection is also employed in a very vague manner. It generally means a good scouring, and but for the plentiful use of carbolic acid or chloride of lime would be little better than an English "spring cleaning." While, however, Dr. Dujardin-Beaumetz is organising the machinery for the disinfection of houses, M. Pasteur is conducting a series of experiments for the purpose of ascertaining what may be considered effective disinfection. In conjunction with several other medical men, some civil engineers, and the prefect of police, M. Pasteur has been every morning to the Hôpital Cochin, where experiments were organised in the following manner. M. Pasteur selected from his laboratory the microbes of chicken cholera, of anthrax, lymph of small-pox (both moist and dry), and other similar subjects. These specimens were divided into three equal parts, and placed in three different small rooms at the hospital. In one room common sulphur was burnt; in the second liquid sulphurous acid was injected through the door by M. Pictel; and nothing whatever was done to the third room. After twenty-four hours the microbes were examined, and calves were vaccinated with the small-pox lymph. The result so far goes to show that the sulphurous acid, whether derived from the fumes of burning sulphur or from M. Pictel's syphon bottles containing the liquid form, did not disinfect at all. M. Pasteur showed me some cultures, notably those of splenic fever, which had developed themselves with great activity in spite of twenty-four hours' sojourn in the midst of sulphurous acid gas. At the same time, I must state that the experiments were in no wise conclusive. The amount of sulphur employed was small—750 grammes to 80 cubic metres,—and now the experiments are being repeated with a far stronger proportion of sulphurous acid; and if the liquid form is employed, there will be no difficulty in attaining the required strength. But this is expensive. At present five francs a litre is the price demanded, though probably this will be reduced to

two or three francs. Yet even at this price the disinfection of a room will cost from ten to twenty shillings, according to its size. The Hôpital Bichat and the Hôpital Broussais will be devoted especially to the treatment of cholera cases should the epidemic break out in Paris. The former hospital has only just been completed. It is built, according to the Tollet system, in pavilions that have no angles, being of the Gothic arch shape. It is spread over a large extent of waste space in the fortifications to the north of Paris, occupying in all 7700 square metres, but the hospital cost only £40,310, including the price of the land. Each pavilion is thoroughly separated from the neighbouring pavilions, contains thirty beds, giving a surface measurement of 11 metres per bed, and a cubic capacity of 60 metres per inmate. These rare advantages place this hospital first among the model hospitals of France, and the results already obtained in this building are most favourable. The idea of employing the Château de Brévannes, which it is proposed to convert into an asylum for the aged and infirm, as a cholera hospital is not so promising. This magnificent but antiquated building cannot be considered as equal to the modern exigencies of sanitary science, and I trust that no more infirmities than those inherent to old age will be treated in this building. Better far the proposed erection of wooden huts in the fortifications, though the ambulance of the Tollet type (such as may be seen behind the dairies at the Health Exhibition) would be even better suited to this purpose. They take only eight hours to construct, and may therefore be brought anywhere to meet a sudden emergency. As this model has been definitely adopted by the Ministry of War, an epidemic would be a good opportunity of testing the practical worth of the Tollet ambulance. In the meanwhile, the news from the south of France is more and more menacing. The epidemic has fairly invaded Arles. It seems to have begun in several other places, and is slowly travelling north. The proportion of fatal cases has greatly increased, amounting to as many as six in seven at Toulon, while the duration of the attack varies from six to eleven hours. Such was the official information given to me yesterday by Dr. Proust. Under these circumstances it is indeed fortunate that the authorities have displayed some activity, and are anxiously struggling to save Paris from this terrible scourge. The *Journal Officiel* to-day publishes the ministerial circular to the prefects on the subject, ordering the disinfection of all houses where cholera has occurred, but not describing how this disinfection is to be accomplished. The Government is evidently waiting for the conclusion of M. Pasteur's experiments.

Paris, July 22nd, 1884.

EGYPT.

(From a Correspondent.)

THE committee attached to the Egyptian Sanitary Department has now definitely resolved to abandon all idea of land quarantine and sanitary cordon in the event of another visitation of cholera. Most observers will allow that the strenuous efforts of the police in 1883 were a decided failure and had no salutary effect, while the needless disadvantages of the system are well known to most Englishmen. The committee, consisting of four native and two English doctors, has, therefore, unanimously decided upon adopting the conclusion come to at Vienna in 1874 by the International Sanitary Conference: "Considering that land quarantine is impracticable and useless, in consequence of the frequent and always increasing means of communication, and believing that it is fatal to all commerce, the conference rejects quarantine by land." Although the committee frankly acknowledges that the isolation of the first village attacked is a useless and unnecessary measure, it permits the sanitary department, in case of urgent need, such as allaying a panic, to recommend the measure to the Government, only stipulating that it shall cease to be employed directly the disease appears in a second town or village. The committee, of course, recommends many sanitary proceedings, such as the cleaning and scavenging of towns and villages, the evacuation of the first house infected, the substitution of earth trenches for mosque latrines in case of epidemic, the boiling of drinking water, the postponement of all fairs and cattle markets till the month of November, &c. No tents at present exist for Government service which are not required for the Egyptian army, and means will at once be taken to procure a sufficient number for the provinces, in order to treat the sick of an epidemic, and those natives who may be evacuated from their homes. The resolutions of the sanitary committee have been approved by the Council of Ministers.

Examination of the last week's death returns from the three large towns of Egypt gives the following result:—The average daily death-rate for Cairo is 52, of which cases 23, or 44·2 per cent., are from intestinal diseases, and at least half this number are returned as gastro-enteritis in children. In Alexandria it would appear that 20 deaths occur daily, 5½, or 27·1 per cent., of them being accounted for by diarrhœa, typhoid, and kindred complaints. At Tantah there is an average daily rate of 10, with about 2 cases only of intestinal disease, or 21·4 per cent.

It is interesting at this time to look back to the account of the reappearance of cholera in Lower Egypt in 1866. The first known case in that year was on March 8th, and was traced to a fatal form of diarrhœa which prevailed in the workshops of the Isthmus Canal Company at Chalouf. Three other cases occurred in March and three more in April, all at Alexandria or Suez. In May the usual mortality of Suez was doubled, and "choleriforme" was reported, while in June and July dropping cases continued in the seaport towns. In August "cholerine" probably existed in Tantah and Cairo, and in three days it killed 8 per cent. of a population of 300 at a small village near Zagazig. On September 12th a considerable outbreak of epidemic cholera occurred, and for a short period the cases numbered, it is believed, sixty daily. On November 11th the disease had almost disappeared, and its complete cessation was reported on November 20th, 1866.

Cairo, July 13th.

THE SERVICES.

ARMY MEDICAL DEPARTMENT.—Brigade Surgeon Robert Owen Hayden has been placed on temporary half-pay on account of ill-health.

ADMIRALTY.—Staff Surgeons William Middleton Power and John Neesom Stone have been promoted to the rank of Fleet Surgeon in her Majesty's Fleet.

The following appointments have been made: Robert W. Soper, to be Surgeon and Agent at Dartmouth; and Patrick T. Dillon, to be Surgeon and Agent at Tarbert.

MILITIA MEDICAL DEPARTMENT.—Surgeon-Major Henry Cooper Rose, 4th Battalion, the Duke of Cambridge's Own, (Middlesex Regiment), resigns his commission; also is permitted to retain his rank and to wear the prescribed uniform on his retirement.

RIFLE VOLUNTEERS.—7th Middlesex (London Scottish): Leslie Ogilvie, Gent., M.B., to be Acting Surgeon. James Rowlands Essex, Gent., to be Acting Surgeon.

MEDICAL NOTES IN PARLIAMENT.

The State of the Thames.

IN the House of Commons on Friday, Sir C. Dilke, replying to Sir A. Lusk, expressed his regret that the select committee had thrown out the scheme of the Joint Drainage Board for the Lower Thames Valley, and observed that now there was nothing to prevent sewage in a crude condition from being poured into the river.

Further questions were put on Monday by Sir F. Milner and Mr. Macfarlane as to the state of the river near Greenwich, but nothing new was elicited.

The Indian Medical Service.

Mr. Gibson, in an able speech, brought forward, on Friday, his motion, "That the condition of the Indian Medical Service calls for the early attention of the Government, and this House trusts that measures will soon be taken to lessen the block in promotion and the disappointment at the methods of employment and pay which exist in its ranks."—Sir L. Playfair seconded the motion, which was supported by Mr. Leamy, Dr. Lyons, Mr. Plunket, Dr. Farquharson, and Mr Healy.—Mr. J. R. Cross replied that the Government could not accept the resolution, but he would bring the subject before the Indian Government. At

the same time he expressed an opinion that the Indian Medical Service was better than the British, and that the reduction of the number of yearly appointments was diminishing the block in promotion. The motion was negatived without a division.

The Cholera.

On Monday, in reply to Mr. Gray, Mr. Trevelyan stated that the Corporation of Dublin would be empowered by the Local Government Board to carry out the 149th Section of the Public Health Act in the event of cholera making its appearance. A floating intercepting hospital was ready in the harbour, and the medical officers were on the alert. The Local Government Board had full information as to the best means of obtaining portable hospitals.

Sir C. Dilke informed Dr. Cameron that the importation of rags from Marseilles and Toulon had been prohibited, and a cargo from the former place, which had been landed near Hull, would be sent back.

Lunacy Accounts.

Mr. Hibbert informed Mr. Corbet that the total annual cost of all English lunatic asylums appeared in the abstracts of the asylum accounts which were forwarded to the Lunacy Commissioners, and which were laid upon the table of the House, but not printed. Four letters had been written without effect to the medical superintendent of the Manchester Royal Lunatic Asylum, asking for his return. There was no separate account of the cost of lunatics in workhouses.

A Volunteer Hospital Corps.

Lord Hartington stated to Sir T. Lawrence that this scheme was not yet sufficiently advanced for the issue of regulations. It would be fully considered when next year's estimates were prepared.

Spurious Butter.

On Tuesday, Mr. Dodson replied to Mr. Dawnay that he was in communication with the Treasury as to separate returns of the imports into this country of injurious butter substitutes.

Vaccination.

Mr. Russell informed Mr. Hopwood that the Local Government Board, believing their opinion against repeated penalties for non-vaccination to be well known, did not think the issue of a fresh circular necessary.

On Thursday, the hon. gentleman expressed approval of a pamphlet on vaccination which had been issued by the National Health Society.

Royal University of Ireland.

Mr. Trevelyan, on Tuesday, stated to Mr. Kenny that the Senate of the Royal University of Ireland granted medical degrees to gentlemen who had passed the Arts course in the Catholic University, or had studied at some other university prior to the establishment of the Royal University.

The Salt Tax in India.

On Thursday, Mr. J. M'Carthy asked the Under Secretary of State for India whether his attention had been drawn to an article in THE LANCET, published two months ago, in which that high medical authority asserted that, "as the diet of the Hindoo is almost entirely farinaceous and vegetable, it is a cruel injustice to impose a tax that renders a physiological necessary a high-priced luxury;" and whether the Government would take into account the opinion of THE LANCET in arranging their future policy with regard to the salt tax in India.—Mr. J. R. Cross said his attention had been called to the article in question. The Government of India were thoroughly alive to the objections that were raised to the imposition of the salt tax, and would bear them in mind in arranging their future policy.

Nenagh Dispensary.

Mr. Trevelyan said, replying to Mr. Leahy, that the Local Government Board had called upon Dr. Calaghan, the medical attendant of the Nenagh Dispensary District of the Nenagh Union, for an explanation of his conduct in respect to alleged neglect of duty. The doctor did not deny that a red ticket might have been left on Friday, the 29th of May last, making it his duty to visit immediately Alice McCormack (the daughter of Mr. John McCormack, carpenter, of Nenagh), a girl who was lying at the time dangerously ill. If such a ticket were left he could find no trace of it. There was neither neglect nor forgetfulness attributable to him, inasmuch as he passed Mr. McCormack's house twice on the day in question, and could have called had he known, without any inconvenience whatever. The doctor had since prescribed for the child, and she was now quite well.

Obituary.

CÆSAR H. HAWKINS, F.R.S.

SERGEANT SURGEON TO THE QUEEN.

To comprise in the space at our command a professional life of seventy years, sixty of which were spent in active work, is difficult. In giving a sketch of the life of Mr. Cæsar Hawkins, who died on Sunday last, we can but refer to the most salient points. He was born on September 19 h, 1798, at Bisley, in Gloucestershire, where his father, the Rev. Edward Hawkins, was vicar, who was the youngest son of Sir Cæsar Hawkins, Serjeant Surgeon to George II. and George III., Surgeon to St. George's Hospital from 1735 to 1774, when he was succeeded in that office by his son, Mr. Charles Hawkins, who resigned in 1792, but was re-elected in 1798, and in 1800 was appointed by Charter the first Master of the College of Surgeons of London, he being then Serjeant Surgeon. Mr. Cæsar Hawkins was first at a school in Gloucester, and in 1807 was admitted to Christ's Hospital School, where he remained until 1813, being then of the age when boys who were not going to Oxford or Cambridge were compelled to leave. Two of his brothers—the well-known Provost of Oriel, and Dr. Francis Hawkins, Physician to the Middlesex Hospital—were educated at the Merchant Taylors' School, and both went to St. John's College, Oxford. In 1814 he became an articled pupil to Mr. Sheppard, of Hampton Court, the medical attendant of the Duke of Clarence, afterwards King William IV., when he resided at Bushey-park. Mr. Cæsar Hawkins remained with Mr. Sheppard until 1819, when he became a pupil at St. George's Hospital, and entered to the lectures on Surgery of Mr. Brodie, Assistant-Surgeon, lecturing then in a small theatre in a house opposite the Hunterian School in Great Windmill-street, and to the lectures of Wilson and Charles Bell in that school, to Dr. George Pearson's lectures given at his house in George-street, Hanover-square, to Lectures on Chemistry at the Royal Institution, when Faraday was an assistant in the laboratory. This shows how the centres of education were then scattered.

For many years Mr. Cæsar Hawkins was the prosector in Windmill-street, also assisting Charles Bell and John Shaw in their experiments illustrating the uses of the fifth and seventh nerves. In 1821 he was house-surgeon at the Lock Hospital, in which year he became a member of the College of Surgeons. In 1822 he was house-surgeon to St. George's Hospital, and in 1823 he commenced practice in lodgings in Vere-street, Oxford-street. In 1825 he removed to Half Moon-street, where he took house pupils, and in 1842 to 26, Grosvenor-street, where he died. For some years he dissected and performed experiments for Sir Everard Home. Before leaving St. George's Hospital, he received overtures for teaching anatomy from Charles Bell and John Shaw at the Hunterian School; and also from Herbert Mayo, who had built a small theatre behind his house in Berwick-street. On Mr. Brodie's advice he accepted the latter offer, and there commenced giving anatomical demonstrations. In 1826 the lease of the Hunterian School was bought from Charles Bell by Herbert Mayo and himself, where he continued to teach anatomy until 1830, when he left, with all the St. George's Hospital staff, upon the opening of the school at that hospital, Mr. Mayo leaving in the next year to go to King's College. Mr. Cæsar Hawkins was the last member of the great Hunterian School founded by William Hunter in Great Windmill-street. In 1829 he joined Sir Benjamin Brodie, who was then lecturing on Surgery in the Hunterian School, in delivering part of the course, and continued subsequently to do so at St. George's Hospital, first with Mr. George Babington, and eventually with Mr. Tatum until 1874, after which he occasionally gave Clinical lectures. From 1832 to 1834 he also lectured with Dr. Seymour on Medical Juris-

prudence. On leaving Great Windmill-street, the Museum was divided; one half Mr. Mayo took to King's College, the other Mr. Hawkins took to St. George's Hospital, and afterwards presented it to the hospital. On his relinquishing teaching at St. George's Hospital, he was requested to sit for his bust as a testimony of the esteem of his old pupils, which was presented to his wife. In 1828, in the absence of Sir Charles Bell and Mr. Mayo, he was requested by the governors of Middlesex Hospital to undertake their duties as surgeon, which he did for some months. In 1829 he was elected surgeon to St. George's Hospital. This office he held until 1861, when he was elected a consulting surgeon. At the College of Surgeons he held every office: appointed a Fellow by Charter in 1843, a Member of the Council in 1846, Examiner in 1849 (in which year he delivered the Hunterian Oration in the presence of the late Prince Consort), and President in 1852 and 1861, representative on the Medical General Council in 1865, and in 1871 was elected a trustee of the Hunterian Museum.

From 1845 to 1849 he was an examiner in surgery at the University of London, President of the Royal Medical and Chirurgical Society in 1855 and 1856, of the Pathological Society in 1849 and 1850, and of the Sydenham Society in 1873 and 1874. He was elected a Fellow of the Royal Society in 1856, appointed Surgeon Extraordinary to the Queen in 1857, and upon the death of Sir Benjamin Brodie in 1862, Sergeant Surgeon, being the fourth of his family holding that office—viz., Sir Cæsar Hawkins, his son Mr. Charles Hawkins, and his brother Mr. Pennell Hawkins, Surgeon to Middlesex Hospital. Mr. Cæsar Hawkins had been consulted by four generations of the present Royal Family. In 1874 he printed for private circulation two volumes containing his communications to scientific societies and medical journals. These were fully noticed by the medical journals, and with great praise. He died, as was stated in a notice of his life in *The Times* of last Monday, as John Hunter did, without receiving any title as a recognition of his merits. A most feeling allusion to his death was made in a sermon in St. George's, Hanover-square, Church, on Sunday. We are permitted to quote the following from a letter written to one of his friends on hearing of his death by one of the most distinguished members of the profession:—"We have lost, I think, the clearest mind in our profession, in which accuracy was least swayed by imagination, or temper, or desire for renown. I have never known one more completely honest or discreet in counsel, or less influenced by self-interest."

Mr. Cæsar Hawkins had been some months before his death more or less confined to his bedroom. Early in last December he met with an accident in going downstairs; he slipped, and though able to recover himself to some extent, he sustained a severe bruise on the left leg, followed by much effusion of blood. Without any subsequent external mischief the effusion became gradually absorbed, but during part of this period there were certain evidences of clot in the larger veins of the same leg, attended by some constitutional disturbance, all of which tended to weaken the system, and cause some anxiety to those in attendance upon him. But by degrees these symptoms subsided, and Mr. Hawkins was sometimes able to sit up, and even on one occasion to leave the house for a few hours. Subsequent to this he became less well, was troubled with cough and loss of appetite, added to which other ailments of advanced life combined to weaken the body and hasten the fatal end. To the last his mind was clear. He rose from his bed early on Sunday morning, became faint and expired in a few minutes.

There are few men who have gone through life more highly respected by all who knew him than the subject of these lines. High-minded, industrious, accurate, and conscientious, he commenced the struggle of life at an early age, and by hard work, honesty, and perseverance with comparatively very small means, and independent of worldly influences, raised himself from the position of the once well-known "apprentice to a general practitioner," to that of the highest in a surgeon's ambition.

In private life his real worth was known to comparatively few. No one appeared to be more influenced for all that was right and good than he was. "Faith, Hope, and Charity" might be said to have been his guiding principles through a long life. No one gave more freely to a deserving cause; none but the giver knew to what extent; none but the receiver knew to what amount. Mr. Cæsar Hawkins was twice married, and has left a widow to mourn her loss, but no children.

J. W. MOORE MILLER M.D., M.R.C.P., J.P.

IT is with much regret that we record the death of Dr. J. W. Moore Miller, which took place at his residence, Southsea, on the 9th inst. Dr. Miller was the only son of the late Captain Miller of the 46th and 24th Regiments, and was born in 1820. He began his medical studies as a pupil of the late Mr. Caldwell, at Milbrook, near Southampton, where his father resided, and in 1838 entered at University College Hospital, where he was a dresser under Liston. After passing the College in 1841, he joined the Peninsular and Oriental Steam Packet Company, at first taking voyages between this country and Calcutta, and afterwards becoming superintendent medical officer of the Peninsular and Oriental Company's Bengal Station and Hospital. In addition to these appointments, during his residence in Calcutta he enjoyed a large private practice. Returning to England, he settled at Southsea in 1859, succeeding the late Dr. Engledue. In 1862 he was elected one of the staff of the Royal Portsmouth Hospital, an appointment which he held for five years. He was also consulting physician to the Royal Seamen and Marines' Orphan School, and medical referee for several insurance companies.

In 1863 Dr. Miller became a member of the Town Council, but, after a few years' service, finding that he was unable to devote sufficient time to the duties, he retired, or there is no doubt he would have been asked to accept the office of Mayor. He was placed on the Commission of the Peace in 1871. In the early days of the Portsmouth Artillery Volunteers, he held a commission as surgeon, and took considerable interest in all matters relating to the corps. From its formation he was a warm supporter of the Portsmouth Literary and Scientific Society, in which he had held the office of president, and was a contributor of papers on the Horse's Foot and Shoeing. On his return from a voyage to Australia, which he made in 1880, he gave the members an account of his experiences, and dwelt upon the desirability of utilising the Australian meat trade for the benefit of the residents in the mother country, and since then he patented some processes for the preservation of meat. He was the holder of a patent for anhydrous leather, to the improvement of which he had devoted considerable attention. Dr. Miller had shown signs of failing health for some months past, but continued in full work up to a few days before his death. Early on the 5th inst, he was suddenly seized with abdominal pain, which resulted in peritonitis; symptoms of cardiac failure became apparent, and notwithstanding the constant watching and care of his friends, Mr. H. Randle and Dr. Wallace, he passed away on the 9th inst.

Dr. Miller was a man of strong force of character. In private life he was genial and most hospitable, and won the esteem and affection of his patients, by many of whom he was regarded as a trusted friend as well as medical adviser. In public, his skill and thorough practical knowledge, combined with his sound treatment of disease, had secured for him a large practice, and brought him into frequent requisition as a consultant. By his unvarying kindness and ready sympathy, he had endeared himself to a wide circle of friends, by whom his memory will long be held in high regard.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on Monday last:—

Atkinson, Ambrose, Leeds.
Campbell, E. Kenneth, M.B. Edin., Wimpole-street.
Child, Herbert, L.S.A., Hedingley, near Leeds.
Graham, A. William, Cambridge-street.
Greenough, Edwin, M.B. Edin., Wibsey, Yorks.
Grimmer, C. George, L.R.C.P. Edin., Bungay.
Hanson, Alfred, Launceston.
Hepburn, David, M.B. Edin., Milnathort, N.B.
Hewer, Henry John, Highbury New-park.
Hoper-Dixon, Arthur, L.R.C.P. Edin., Ashford, Brecon.
Johnston, Benjamin Rigby, L.K. & Q.C.P.I., Ambleside.
Jones, Harry Shirley, L.S.A., Bromsgrove.
Lawson, Robert, Winthank, Fife, N.B.
MacConnel, Henry Wilson, M.B. Cantab., Girvan, N.B.
Mallam, L. George, M.B. Edin., Armidale, New South Wales.
Mason, Henry, Ullesthorpe.

Pockley, F. Antill, M.B. Edin., Sydney, New South Wales.
Purchas, A. Challinor, M.B. Edin., Auckland, New Zealand.
Simms, Henry, Stourbridge.
Spackman, Coniston, Faringdon, Berkshire.
Stiles, A. Jalland, M.B. Edin., Sealding.
Warwick, F. James, M.B. Cantab., Loughborough-road.
Welpton, John, Leeds.
Williams, Alfred, M.B., Glasgow.

Admitted Members of the College on Tuesday last:—

Blacker, Arthur Barry, L.S.A., St. George's-road.
Brown, David Matthews, M.B. Edin., Edinburgh.
Churcher, Thomas Gillard, M.B. Edin., Walworth-road.
Collins, Arthur Ward, L.R.C.P. Lond., Rainhill.
Crisp, James Ellis, L.S.A., Lacock, Wilts.
Fletcher, W. W. Ernest, M.B. Cantab., Argyle-square.
Hughes, Henry Milner, M.B. Durham, Harrogate.
Jefferies, Horace, L.S.A., Bromsgrove.
Jones, Richard Nelson, L.R.C.P. Lond., Swansea.
Keale, John Rushworth, L.R.C.P. Lond., Southampton.
Mirza, Jafarkuli Faredumbeg, L.R.C.P. Lond., Bombay.
Taylor, John Cleasley, M.B. Edin., Windermere.
Thurston, Hugh Champneys, L.R.C.P. Lond., Thornbury, Gloucester.
Walker, Edward, M.B. Edin., Huddersfield.
Welsford, George Frederic, M.B. Cantab., Winterbourne, Isle of Wight.
Whitelock, R. H. Anglin, M.B. Edin., Jamaica, West Indies.

Admitted Members of the College on Wednesday last:—

Beardmore, George Russell, L.S.A., Islington.
Bowden, Reginald Treacher, L.S.A., Tenbury, Worcester.
Bryden, Frederick, M.B. Durham, Melbourne.
Clarke, J. McFarlane, L.R.C.P. Lond., Bolton, Lancashire.
Earle, Cyril Somerset, L.R.C.P. Edin., Manchester.
Ferguson, James Haig, M.B. Edin., Edinburgh.
Gent, George Sidney, L.S.A., Bristol.
McDougall, James Edlington, L.R.C.P. Edin., Walton, Liverpool.
Queenell, Robert William, L.R.C.P. Edin., Brentwood.
Roberts, Edwin, Leeds.
Shackel, George Arthur, L.S.A., Reading.
Sharp, Charles John, L.R.C.P. Lond., Liverpool.
Trevor, Robert, L.R.C.P. Lond., Halsey-street.
Weston, George Henry, L.S.A., Bognor, Sussex.
Williamson, Richard Thomas, L.S.A., Burnley.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At examinations held on the 30th ult. and following days, the undermentioned passed in Anatomy, Physiology, and Materia Medica:—

Alfred Barcroft, Alfred G. Beale, James C. Boyce, Thomas Browning, Alban Butler, Louis A. Byrne, Edward J. Cotton, Frederick G. Davis, Richard H. J. Fetherstone, Henry L. Finny, Arthur J. Gernon, Frederick Hall, Nicholas J. Harmon, Timothy H. Harrigan, John Keatly, Thomas Kidd, Richard J. Leper, Martin B. Lyster, Patrick T. Morrissy, Hugh S. Morrison, Samuel F. Murphy, Pierce J. J. O'Connor, James A. Sawyer, Davis D. Tate, George Woods, Ernest H. Tweedy.

APOTHECARIES' HALL.—The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on July 17th:—

Nutting, Philip Henry, Hasely Hall, Warwickshire.
Morgan, T. Whitworth Sewell, Roupell-park, Streatham-hill.
Preston, Francis Harrison, Ampton-street, Gray's-inn-road.
Shackel, Geo. Arthur, Erleigh-court, near Reading.
Soden, Thomas Armand Bourne, Newcastle-on-Tyne.
Staple, James Dibble, Hereford-road, Bayswater.
Wright, Sydney C. Ernest, Upper Kennington-lane, Vauxhall.

The following gentlemen also on the same day passed the Primary Professional Examination:—

Ralph Holyoake and Bernard Volckman, London Hospital.

DR. EVANS, of the Lodge, Brymbo, who had practised as a surgeon in the locality for some years with marked success, was found yesterday morning burnt to death in a workman's cabin at Firwd Ironworks.

SANITARY HOUSES.—A conference was held on the 11th inst., under the auspices of the Royal Institution of British Architects, in the conference room of the Health Exhibition, on the Construction of Sanitary Houses. After an introductory paper on the subject of Sanitary Construction in general had been read by Professor T. Roger Smith, a paper was read by Mr. F. W. Hunt on the Sanitary Arrangements of Houses during the past 120 years, and another on Drainage under Dwellings by Mr. S. F. Clarkson. A discussion followed the reading of the papers.

VOLUNTEER AMBULANCE MOVEMENT.—An inspection of the bearer company of the St. Thomas's Hospital Ambulance Association was made in the grounds of Lambeth Palace on Wednesday last. The inspecting officers were Major-General Elkington, C.B., Deputy Adjutant-General, and Dr. Crawford, Director-General of the Army Medical Department. A numerous company were present, among whom were Lord Morley, Under Secretary of State for War; Surgeon-General Hanbury, K.C.B.; Dr. Billings; Mr. Ellisson, of the French Red Cross Society; Mr. Archibald Forbes; Professor Longmore, C.B.; Brigade Surgeon Nash; Surgeon-Major Roe; Surgeon-Major Evatt; Surgeon Cross; Mr. Cantlie; and Sir William Mac Connac, President of the Association. At the close of the drill, Dr. Crawford complimented the company on its performance, and remarked on the value of the movement as a means of providing properly qualified surgeons for the volunteer force.

AT a recent meeting of the Dover Town Council a scheme for extending the sewer outfalls and further improving the drainage of the town, consequent on the growth of the borough, was approved. The approximate cost of the scheme is about £10,000.

THE DRAINAGE OF HENDON.—A Select Committee of the House of Lords has passed a Bill, which has already received the sanction of the House of Commons, confirming a provisional order granted by the Local Government Board, to enable the Hendon Local Board to acquire by compulsion thirteen acres and a half of land at Hendon, for the purpose of enlarging their existing sewage works, and to deal with the sewage by chemical processes and by filtration. The effluent from the proposed works will pass into the river Brent, and the solid matter will be used as manure.

NATIONAL HEALTH SOCIETY.—At a meeting of the Vaccination Officers' Association, held on Saturday last, a cordial vote of thanks was given to the National Health Society for issuing their pamphlet entitled "Facts concerning Vaccination," and the Association expressed their appreciation of the "thoughtful kindness which prompted the Society to assist the vaccination officers of the metropolis in the discharge of their often difficult duties." The pamphlet in question has, we understand, now been distributed from house-to-house in most of the districts in the metropolis where small-pox is epidemic.

SOUTH LONDON SCHOOL OF PHARMACY.—The following were the successful competitors at the School examination held from the 26th of June to the 5th of July:—Senior Chemistry: medal, R. Wilkinson; certificates (equal), D. Arnott and J. Jackson. Junior Chemistry: medal, W. Rushton; certificate, W. Holme. Botany: medal, T. J. Clarke; certificate, R. Atkinson. Materia Medica: medal, W. Holme; certificate, T. J. Clarke. Pharmacy and Practical Dispensing: medal, F. E. Brown; certificate, W. Rushton. Extra certificates of merit: Messrs. Coleman, Cooper, H. Jackson, Kingan, Mathews, Taylor, Ward, and Williams.

SOCIAL SCIENCE ASSOCIATION.—At the annual business meeting held at the offices of the Association in Adam-street on Tuesday, a report from the Council, detailing the action taken by the Association during the twelve months ending June, was presented and ordered to be received and circulated. The report dealt with several subjects of interest in regard to which special action had been taken, and among these may be mentioned—milk-supply; loss of life at sea; the Hospitals Association, which was the outcome of the Conference on Hospital Administration held last year under the auspices and management of a special committee of the Council; and the International Health Exhibition. The Right Hon. G. J. Shaw-Lefevre, M.P., was appointed president for the year 1884-85, Dr. Norman Chevers being elected to preside over the Health Department with Mr. H. H. Collins and Dr. Edward Seaton as secretaries.

THE SANITARY ASSURANCE ASSOCIATION.—At the ordinary monthly meeting of the Council of this Association, on July 14th, a paper on the Sanitary Exhibits at the International Health Exhibition was read by Mr. Mark H. Judge, A.R.I.B.A. On the question of the disconnexion of house drains, Mr. Judge said arrangements for providing a free passage of air into drains on the house side of outfall traps to form an air break or disconnexion between sewers and house drains were now admitted to be necessary by all sanitary authorities. By means of the outfall syphon trap, combined with air disconnexion and outlet ventilation above the roof, a dwelling would be thoroughly protected from the ingress of sewer air. With perfect house drains properly disconnected from the sewer, the inhabitants of a town dwelling might enjoy the blessings attendant upon cleanliness; but without such disconnexion from the public sewer the cleanest possible household must share the dangers resulting from the sins of others against the laws of health.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

ANDERSON, JAMES, M.D., M.R.C.P.Lond., has been appointed Medical Registrar to the London Hospital, vice C. F. Coxwell, M.B., M.R.C.P.Lond., resigned.

ARTHY, G. F. S., M.R.C.S., L.R.C.P.Ed. (late House-Surgeon to the General Infirmary, Leeds), has been appointed House-Surgeon to the Choriton Dispensary, Manchester.

BROUGHTON, HENRY TODD, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Heckmondwike District of the Dewsbury Union.

CARNELLEY, MATTHEW, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Wilford District of the Basford Union.

CHUTE, JAMES, B.C Dub., has been appointed Medical Officer for the Pembridge District of the Kington Union, vice Wilson, resigned.

COUCH, JOHN QUILLER, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Fifth District of the Penzance Union, vice J. Quick.

GROVES, H. J. FIRTH, L.R.C.P.Lond., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Manning River, N.S.W.

HARDING, THOS. MASSEY, F.R.C.S.Eng., has been appointed Government Medical Officer for the District of Ryde, N.S.W.

HILL, J. HIGHAM, M.D., F.R.C.S.E., has been appointed Government Medical Inspector for the United States of America at the Port of London.

HODGES, HERBERT CHAMNEY, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Watton District of the Hertford Union, vice H. B. Hodges, resigned.

KEMPE, JOHN ARTHUR, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the North Tawton District of the Okehampton Union, vice Norman, resigned.

PEARCE, WALTER, B.Sc., M.R.C.S., L.R.C.P., has been appointed Medical Superintendent to St. Mary's Hospital, London, vice Alex. Stewart Brown, F.R.C.S.Ed., resigned.

PRATT, W. SUTTON, L.F.P.S.Glas., L.S.A.Lond., has been appointed Medical Officer for the Third District of the Daventry Union, vice Swann, resigned.

QUICK, JOHN, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the First District and Workhouse of the Penzance Union, vice J. R. Quick, deceased.

SPURGIN, W. H., M.R.C.S., L.S.A.Lond., has been elected Medical Officer of Health for the District of Maryport, vice J. Pearson, M.D., resigned.

TUCK, JOHN, M.R.C.S., has been appointed Medical Officer to the Tambo Hospital, Queensland.

WHEELER, D. M. BRUMWELL, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer to the Union Infirmary, Chelmsford, vice D. Wheeler, resigned.

Births, Marriages, and Deaths.

BIRTHS.

BUCHANAN.—On the 22nd inst., at High-street, Chatham, the wife of Arthur Buchanan, M.D., of a son.

GWYNNE.—On the 20th inst., at Brightfield House, Sheffield, the wife of C. Nelson Gwynne, B.A., M.B., of a daughter.

HALL.—On the 19th inst., at Laurel Villa, Victoria-road, Surbiton, the wife of Edgar A. Hall, M.B., C.M.Edin., of a daughter.

STOTT.—On the 18th inst., at Carlton Villas, Colney Hatch, the wife of Hugh Stott, M.R.C.S., L.S.A.Lond., &c., of a son.

MARRIAGES.

HOLTHOUSE—HESKETH.—On the 17th inst., at St. John's, Redhill, Surrey, Edwin Hermus Holthouse, M.A., F.R.C.S., second son of Carsten Holthouse, F.R.C.S., to Harriet Emily, eldest daughter of the late Robert Hesketh, Esq., of Earlswood Mount, Redhill.

McTAVISH—HOOPER.—On the 16th inst., at the Parish Church of Claines, Worcester, Alexander Campbell McTavish, Brigade Surgeon (retired), son of the late Rev. A. McTavish, of Inverchoalain, Argyleshire, to Mary H. Katharine, second daughter of A. C. Hooper, Esq., The Grange, Claines, Worcester.

DEATHS.

GODFREY.—On the 12th inst., at Epsom, Race Godfrey, M.R.C.S., formerly of Bath, in his 92nd year.

HAWKINS.—On the 20th inst., at Grosvenor-street, Cæsar Henry Hawkins, F.R.S., F.R.C.S., and Serjeant-Surgeon to the Queen, in his 86th year.

KNAGGS.—On the 17th inst., at Camden-road, N.W., Henry Knaggs, M.R.C.S., &c., in his 80th year.

MORRIS.—On the 11th inst., Henry Morris, F.R.C.P.Ed., late 6th Royal Regiment and 7th Dragoon Guards, aged 45.

SEALE.—On the 17th inst., at Ashton House, Steeple Ashton, Job Lockyer Seale, M.D., aged 83.

TAYLOR.—On the 18th inst., at Bradbourne House, Acton, Charles Alfred Andrews Taylor, M.R.C.S., aged 22.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

BOOKS ETC. RECEIVED.

BAILLIÈRE, J. B., ET FILS, Paris.

La Gymnastique: Applications Hygiéniques et Médicales. Par Dr. A. Collineau. pp. 824, avec 136 Figures.

BAILLIÈRE, TINDALL, & COX, London.

The Winter Alpine Cure, with Notes on Davos Platz, Wiesen, St. Moritz, and the Maloja. By A. T. T. Wise, M.D. pp. 85.

CHATTO & WINDUS, London.

The Patient's Vade-Mecum. By Wm. Knight, M.R.C.S., and Edw. Knight, L.R.C.P.Ed. pp. 118.

GRIFFIN C., & Co., London.

Year-book of the Scientific and Learned Societies of Great Britain and Ireland. With an Appendix comprising a List of the Leading Scientific Societies throughout the World. First Annual Issue. pp. 236.

HODDER & STOUGHTON, London.

Health Studies. Studies in Life. By H. Sinclair Paterson, M.D. pp. 209–187.

KEENER, W. T., Chicago. TRÜBNER & Co., London.

Medical Education and the Regulation of the Practice of Medicine in the United States and Canada. Prepared by the Illinois Board of Health, and published by permission of the Board. pp. 270.

KEGAN PAUL, TRENCH, & Co., London.

The Foundation of Death: a Study of the Drink Question. By Axel Gustafson. pp. 582.

LEA'S SON & Co., Philadelphia.

Abstract of the Statutes of the United States and of the several States and Territories relating to the Custody of the Insane. By C. F. Folsom, M.D. pp. 111.

LEWIS, H. K., London.

A Statistical Inquiry into the Nature and Treatment of Epilepsy. By A. Hughes Bennett, M.D. pp. 47.

LONGMANS, GREEN, & Co., London.

Notes on Physiology. By Henry Ashby, M.D.Lond. Fourth Edition. pp. 344, with Illustrations.

PUTNAM'S SONS, London & New York.

Student's Manual of Electro-Therapeutics. By R. W. Amidon, M.D. pp. 93, Illustrated.

SMITH, ELDER, & Co., London.

A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M.D., LL.D., F.R.S. Fifth Edition. pp. 1240, Illustrated.

A Defence of Harvey as the Discoverer of the Circulation of the Blood, in Reply to Prof. Scalzi. By George Johnson, M.D. pp. 23.

ULLASTRES, E., Barcelona.

Primer Certámen Frenopático Español, celebrado en Manicomio Nueva Belen. pp. 824.

VOSS, LEOPOLD, Hamburg and Leipzig.

Lehrbuch der Physiologie. Neu Herausgegeben, von Dr. A. Gruenhagen. Erste Lieferung.

The Later History of Spirillum Fever in Bombay, 1882–83; by H. V. Carter, M.D.—Nature and Treatment of Asiatic Cholera; by W. Wakefield, M.D.—Librairie de B. Baillière et Fils.—Report on the London Government Bill; by T. Eccleston Gibb.—Memoir on the Nature of Diphtheria; by Drs. H. C. Wood and H. F. Formad.—An Inquiry concerning the relative Influence of the Sex of the Fœtus in Utero on the Condition of the Mother; by J. Stockton-Hough, M.D.—Second Annual Report of the Provincial Board of Health of Ontario.—A few Valuable Hints for the Prevention of Cholera; by Dr. A. Fitzgerald. (Renshaw.)—Wintering Abroad.—Mentone and the Riviera; by Dr. A. Drysdale.—The Asclepiad; by Dr. B. W. Richardson, F.R.S.—International Health Exhibition Handbooks: Dress, by E. W. Godwin; Athletics, by Rev. E. Warre; Furniture and Decoration, by R. W. Edis; Healthy and Unhealthy Houses, by W. Eassie; Accidental Injuries, by J. Cantlie; Alcoholic Drinks, by Dr. J. L. W. Thudichum; Infectious Disease and its Prevention, by J. Shirley F. Murphy; Ventilation, Warming, and Lighting, by Capt. Galton; Diet, by A. W. Blyth; Nurseries and Bedrooms, by Mrs. Gladstone; Health in the Workshop, by J. B. Lakeman.—Proceedings of the Society for the Study and Cure of Inebriety. (Lewis.)—Popular Sketch of the Bath Mineral Waters; by Louis King, M.R.C.S.; Second Edition.—Madère, étudiée comme Station d'Hiver et d'Eté; par le Dr. J. Goldschmidt; Deuxième Edition.—A Nomenclature of Ophthalmology; by S. M. Burnett, M.D.—Longman's Magazine, August.—Leisure Hour, Boy's Own Paper, Girl's Own Paper, and Sunday at Home, for August.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET OFFICE, July 24th, 1884.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
July 18	30·03	W.	62	57	114	70	53	·08	Fine
,, 19	30·10	W.	60	55	115	69	51	..	Cloudy
,, 20	30 11	W.	67	57	100	70	53	·04	Hazy
,, 21	29 95	S.W.	63	60	93	71	57	..	Cloudy
,, 22	30 00	W.	64	61	101	74	57	·20	Overcast
,, 23	29·93	W.	63	61	107	72	61	..	Overcast
,, 24	29 76	W.	62	56	113	61	51	..	Cloudy

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

THE DRAINAGE OF SHREWSBURY.

A CORRESPONDENT writes that a good work would be accomplished if the people of Shrewsbury could be persuaded to direct their drainage from the Severn. He states that the fine old town is rendered a disgrace to civilisation, and that on a recent visit to the place, the water being low, six or eight discharge pipes were visible, emitting fæcal matter with great rapidity. His remonstrance to a friend elicited the reply that "the next storm would clear it all away." This water, filtered, forms the chief supply for all purposes when it reaches Worcester! He was informed that typhoid exists in Shrewsbury at the present time.

PURE OR IMPURE?

To the Editor of THE LANCET.

SIR,—On the coast a large fishing village is partly divided by a brook or beck, which commences amongst the hills a few miles distant, and flows into the sea a little below the village. This beck has been the water-supply of the inhabitants for centuries, and still provides the only water for drinking and all domestic purposes. There are several respectable residents—some shipowners, captains' families, and others.

It has been decided by the local board of a village about two miles distant to carry a drain the whole length of their village, and then, by a descent, to convey the contents into a branch stream, which flows onwards, passing into the waters which go on to the first-named village. This drain is to carry all offensive matters from the waterclosets, privies, pigstyes, slaughterhouses, and other impurities. Their present medical officer of health states that the sewage matters will have about two miles to flow, and cannot in any way tend to deteriorate the "pure water." There is something exceedingly repulsive in the idea of such proceedings.

Will you please state if such a course is justifiable, and whether the filth will not tend to make the waters unfit for use.—Yours truly,

July 14th, 1884. ONE INTERESTED.

*** The arrangement as described will be in violation of the Rivers Pollution Act, and it will also be unjustifiable. The purification which it is alleged will take place is denied by the Rivers Pollution Commissioners, and appeal should be made to the Local Government Board against the contemplated works.—ED. L.

"A TAILED CHILD."

To the Editor of THE LANCET.

SIR,—With reference to the above subject, which appeared in your issue of July 5th, p. 48, I think those interested in the subject may find several well authenticated cases noted in the Medical Digest, section 3: 5.

I am, Sir, yours truly,

RICHARD NEALE, M.D. Lond.

Boundary-road, N.W., July 18th, 1884.

EXAMINATIONS AT THE ROYAL COLLEGE OF SURGEONS.

AT the examination for the Membership, on July 18th, the following were the questions put in Surgical Anatomy and the Principles and Practice of Surgery, four of which were required to be answered:—

1. Mention the several structures which must be divided in removal of one-half of the inferior maxilla.
2. Describe the ligaments of the hip-joint, and state how they are affected in dislocation upon the dorsum ilii.
3. Describe the treatment you would adopt in a case of extensive lacerated wound of the scalp, and mention the evil consequences which may follow this injury.
4. Describe the varieties of keratitis.
5. State the various complications of fracture of the ribs, and their treatment.
6. Mention the complications that may occur in the course of gonorrhœa in the male and female respectively. Explain their modes of origin.

On the 19th, answers to three of the following questions on the Principles and Practice of Medicine were required:—

1. Discuss the symptoms and production of general dropsy, indicating the causes on which it may depend, the manner in which the several varieties can be distinguished, and the treatment called for in different circumstances.
2. What are the causes and symptoms of Bell's paralysis, or paralysis of the portio dura? Point out the distinctions between this condition and the paralysis observed in hemiplegia.
3. What are the causes, signs, and symptoms of pneumothorax?
4. State the therapeutical effects of the following drugs, and mention their officinal preparations, and their doses when for internal administration: silver, lead, zinc, antimony, digitalis, colchicum, belladonna, and stramonium.

The questions on Midwifery and the Diseases of Women were as subjoined, answers to three of them being compulsory:—

1. Describe the mechanism of labour with the child in abdomino-anterior position and the breech presenting.
2. What means would you adopt with a view to prevent hæmorrhage after labour?
3. What is meant by concealed accidental hæmorrhage? What are its symptoms, and how would you treat it?
4. What conditions produce enlargement of the cervix uteri? How would you distinguish between them?

A CASE OF CHOLERAIC DIARRHŒA.

To the Editor of THE LANCET.

SIR,—On Sunday, the 13th inst., I was called to see G. B——, a married man, aged twenty-nine. I found him suffering from profuse watery diarrhœa and vomiting, with coldness of the extremities, cramps in the abdominal muscles and in the calves of the legs, and symptoms of collapse. He said he was quite well in the morning, and partook of a dinner of roast beef, potatoes, peas, and Yorkshire pudding, with beer. After dinner he laid down and slept for two hours and a half. On awaking he felt an inclination to go to stool, and on going to the closet a profuse watery motion of a yellowish-white colour "ran from him for ten minutes like a tap," without pain. The attacks of purging recurred every few minutes until he became so weak in two hours that he was unable to get up without fainting, and vomiting set in, with cramps in the bowels, and in the calves of the legs and soles of the feet. I ordered a large mustard plaster to be applied over the whole of the abdomen, and kept on as long as it could be borne, and gave half-drachm doses of a 1-in-20 solution of carbolic acid (B.P.), 15-minim doses of the solution of morphia, and 20-minim doses of the aromatic spirit of ammonia, in an effervescing mixture, every two hours. I also ordered a diet of soda-water and milk exclusively. The first dose gave relief to the cramps, and stopped the diarrhœa and vomiting. In six hours he felt comparatively well, and by the time six doses had been taken he was able to come down stairs, feeling all right, except for a little weakness of the legs.

I am, Sir, yours faithfully,

Clayton-le-Moors, July 20th, 1884. C. R. ILLINGWORTH, M.D.Ed.

KOUSSINATE OF SODA.

G. B. B. desires to know what is the dose and the best form in which to prescribe the koussinate of soda.

Incognito.—We do not think the present state of our knowledge of the subject would support the ideas entertained by our correspondent.

THE PINK FUND.

To the Editor of THE LANCET.

SIR,—The following additions to the above Fund have been received up to July 23rd:—H. de Vaux Balbirnie, Esq. (Walkley), £1; J. L. Jardine, Esq. (Capel Docking), 5s.; R. Palgrave Simpson, Esq. (Weymouth), 10s; A. J. (Matlock), £1; Anonymous, (Warminster), 10s.; Thos. Smith, Esq. (Stratford-place), £3 3s.; W. R. Parker, Esq. (Liverpool), 10s.; Francis Walmesley, Esq. (Belmont), £1 1s; Francis Vacher, M.D., £1 1s.; A. J. Newman, Esq. (St. Martin's, Bowness), 10s.

I am, Sir, yours truly,

Soho-square, July 29th, 1884. JOSEPH ROGERS.

Durham.—Both are good. The prestige of Durham is, of course, not equal to that of the other university mentioned.

NON-PAYMENT OF A LOCUM TENENS.

A CORRESPONDENT sends us a curious account of his failure to get any payment from a practitioner whom he had served faithfully as a locum tenens during a long and somewhat mysterious absence. He has been at much expense to enforce payment of his claims. But law has not helped him. He should persevere, and, failing, place the facts before the Medical Council. He has reason to think that others have been similarly treated.

An Old Assistant will see that we have dealt with Sir Lyon Playfair's statements in a separate annotation. Our correspondent is a little shocked at Sir Lyon's representation of the risk of medical men not being forthcoming in sufficient numbers (as he well may be); but some sentences of his letter are a little too warm.

THE WHEATLEY MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—The committee of the Wheatley Memorial Fund have now closed the subscription list, and have desired me to announce a final list of donors, which I shall be obliged by your inserting in your next issue. The committee also authorise me to beg leave to publish the balance-sheet of the treasurer of the Fund, and to inform the subscribers that the treasurer has handed over to the beneficiaires of the Fund, after paying expenses, £304 6s. 1d., in the proportion of two-thirds to Miss Maria Wheatley, the sister, and one-third to Miss Mary Caroline Wheatley, the niece, of the late Mr. B. R. Wheatley.

I am, Sir, yours faithfully,

Berners-street, W., July 21st, 1884. BERKELEY HILL, Hon. Sec.

BALANCE-SHEET.

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July 21st, 1884. (Signed) J. COOPER FORSTER, Treasurer.

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STREET PAVING.

To the Editor of THE LANCET.

SIR,—At the present season, when the imperative necessity of immediately removing anything which may contaminate the atmosphere or serve as a medium for the dissemination of the germs of disease is fully recognised, is it not much to be desired that our streets, and especially our back streets and slums, should be more generally paved with some material, such as asphalte, which, being non-absorbent and impervious, cannot retain any liquid impurity, while its perfectly smooth and level surface is not only washed down by every shower of rain, but, offering no obstruction to the free action of the broom, is kept perfectly clean with the greatest ease, preserving the atmosphere in sweet and wholesome condition?

I am, Sir, your obedient servant,

July 17th, 1884. SANITAS.

W. B. Holderness.—It would depend upon the relative amount of Condy's fluid and stout in the mixture. If the stout were in excess it would reduce all the permanganate to the state of oxide. In that case the remaining organic matter should be destroyed by hydrochloric acid and chlorate of potash, and the usual tests for manganese then applied. If there is any permanganate remaining in the original mixture, the liquid should be saturated with carbonate of potash, filtered, the process repeated, the filtrate evaporated, and examination be made for crystals of potassic permanganate.

Mr. Roecroft.—Next week.

EXCISION OF SPINA BIFIDA.

To the Editor of THE LANCET.

SIR,—I beg to report a case of successful excision of a spinal hernia, upon which I operated a short time ago.

A child aged fourteen days was brought to my surgery, suffering from a spina bifida, the hernia being about the size of a pigeon's egg situated over the fourth lumbar vertebra. It was covered by the whole thickness of integuments, having a narrow base, tense and elastic, and becoming very much more so when the child cried. There was no incontinence of urine or fæces, nor paralysis of the lower limbs, the child being healthy and well developed in every other respect. I explained to the mother the great danger there might be in interference, but she particularly desired, as she expressed it, "to have something done for the child." Having cautioned her again as to the possibility of the child dying immediately of convulsions, I proceeded to tap the tumour with one of Dr. Southey's trocars and canuula, and drew off about two drachms of spinal fluid. I then injected fifteen drops of the tincture of iodine with forty-five drops of water, afterwards applying a compress over the hernia, and sent the child home, with instructions to return in a couple of days, it being none the worse for the first tapping. I repeated the injection a second time, but of a strength of equal parts, again applying the compress. On the child presenting itself the third time, I was pleased to find a diffused inflammation over the parts and a decided contraction of the tumour, and was able to make pressure over the hernia without causing any symptoms of convulsions, which led me to believe there were no important nerves implicated. I therefore injected a drachm of tincture of iodine (B.P.), having previously drawn off a like quantity of spinal fluid; and having tightly compressed the parts, I once more told the nurse to bring the child in a couple of days, at which time I found the hernia contracted to the size of a cherry. I now applied a clamp, specially made for the case by Messrs. Woods of York, with the intention of closing the neck of the sac, yet not sufficiently tight as to interfere with the circulation, and each day I continued to tighten the clamp. On the fourth day, with a sharp bistoury I cut off the tumour, when there was some little hæmorrhage. I therefore simply tightened the clamp, and left it in position twenty-four hours longer, when I removed it, and was pleased to find the opening between the spinal column and the tumour entirely obliterated. From first to last the child never showed a bad symptom resulting from any portion of the operation, sleeping and taking the breast well.

I am, Sir, yours truly,

Snenton, Nottingham, July, 15th, 1884. ROBT. HOWSON.

Mr. S. H. Little.—The case would be very remarkable only if the two spleens were of equal, or nearly equal, size.

THE ONTARIO PUBLIC HEALTH ACT.

To the Editor of THE LANCET.

SIR,—Will you allow me a brief space to make a few remarks regarding the notice of the Ontario Public Health Act of 1884 which appeared in your issue of May 10th? I would have made this request earlier had I not been absent from home.

Your review, while on the whole favourable, takes exception to the "soil-pipe going up inside the dwelling, instead of in a chase outside." The reason for this you anticipate in your reference to the climate. It has been found by experience that we cannot run soil-pipes on the outer side of house walls in this country or the northern portion of the United States. You may have some idea of the effects of our long-continued frost when you are informed that the ground freezes solid to a depth of over three feet. When we have thaws in the day-time and keen frosts at night we have trouble even with our rain pipes. You would hardly imagine this from the reports of our bright, pleasant climate; the atmosphere is bright and dry, but there is long continuance of sharp frost at times. When you object to the soil-pipe being inside the house at all, you will *a fortiori* endorse the necessity there was for legislative enactment providing that all such soil-pipes should be continued up through the roof, and should have an outside ventilator allowing a current of fresh air to circulate through the drainage system of the house. The same reasons account for the difference in the treatment of the bath waste-pipe. The ventilation of drains at the ground level I consider dangerous; I have frequently seen such ventilators acting as outlets. I am glad to say as regards the ventilation of sewers on the level of the road-bed that no less an authority than Mr. Sedgwick Saunders, through the medium of THE LANCET, pointed out some time ago the evil results arising from this practice in certain instances. You will find further arguments against this plan of drain and sewer ventilation, and in support of overhead ventilation of sewers, in a paper on that subject read by me before the American Public Health Association, and published in our second annual report, of which paper I send you a copy.

I am, Sir, yours truly,

Toronto, June 30th, 1884. WM. OLDRIGHT.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Col. Sir F. Bolton, London; Sir Edmund Lechmere; Dr. Champneys; Dr. A. B. Cook, Louisville; Mr. Cantlie, London; Mr. Stretton, Kidderminter; Mr. H. H. Moore, Darwen; Dr. Neale, London; Mr. F. C. Lucas, Edinburgh; Dr. Kirk, Partick; Messrs. Newbery and Son, London; Dr. Watson, Weirfield; Mr. Ellis, Gloucester; Dr. Illingworth, Clayton-le-Moors; Mr. J. W. Allan, Belvidere; Dr. MacGeagh, Kingston; Mr. Holderness, Windsor; Mr. Christiansen; Mr. Rundle, Southsea; Surgeon-General Gilbourne; Mrs. Drake, San Remo; Mr. Malcolm Morris, London; Mr. Dingley, King's-cross; Mr. Astc; Mr. Macfarlane, Hay; Mr. Eberle, Thirsk; Mr. Berridge, Loughborough; Mr. Jones, Dowlais; Mr. Kerr, Halesowen; Mr. Flint, Westgate-on-Sea; Mr. Johnson Martin, Bolton; Mr. Barr, Liverpool; Mr. Mason, Sudbury; Dr. Marsden, London; Dr. Clark, Tunbridge Wells; Dr. Hassall, Lago Maggiore; Mr. A. W. M. Robson, Leeds; Mr. R. Main, East Ilsley; Dr. Wilson, Cheltenham; Mr. Vanhouse, Lewisham; Dr. Macdougall, Carlisle; Dr. Harkin, Belfast; Mr. Standage, London; Dr. G. de C. Morris, London; Mr. Rideal, London; Mr. F. Lankester, London; Dr. Truman, Nottingham; Messrs. Arnold and Son, London; Dr. Reid, London; Mr. Antrobus; Dr. Squire, London; Dr. Hilliard, Aylesbury; Mr. Davies, Cheltenham; Mr. Jones, Sheffield; Messrs. Brown and Sons, Hull; Dr. Tennent, Aspatria; Mr. Nicholls; Messrs. Lee and Martin, Birmingham; Messrs. Lindsay and Son, London; Mr. Smith, Halifax; Messrs. Ingram and Royle, London; Mr. Pring, Putney; Dr. Caton, Liverpool; Mr. Graham, Wigan; Dr. Steele, Zürich; Mr. Fell, London; Dr. Wakefield, Aix-les-Bains; Dr. Campbell, Garlands; Mr. Terry, Winchester; Mr. Henry Lee, London; Dr. Weaver, Southport; Dr. Nixon, Dublin; Dr. Cutter, New York; Dr. Faulkner, London; Med. Student; A.H.; Verax; Incognito; M.; Sanitas; Alpha, Pennerstone; Durham; Scotus; L. E. J., Radcliffe.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Berry, Keeley; Messrs. Kilner and Co., London; Mr. Brown, Westgate-on-Sea; Dr. Gwynn, Cannock; Mr. Harris, Pontypool; Dr. Needham, Gloucester; Mr. Larmuth, Manchester; Mr. Cowland, Launceston; Mr. Armstrong, Manchester; Dr. Adams, Maidstone; Mr. Ruspini, Knutsford; Messrs. Atkinson and Co., Kendal; Mr. Marsh, Hindley; Dr. Duckworth, London; Dr. Lintock, Church Stretton; Mr. Scriven, Duffield; Messrs. Maclachlan and Stewart, Edinburgh; Dr. Woakes, London; Mr. Constable, Edinburgh; Mr. Parrott, Aylesbury; Mr. White, Bayswater; Messrs. Isaacs and Co., London; Mr. Marrett, Peterborough; Mr. Casella, London; Mrs. Thomson, Abergavenny; Dr. Colewell, Surbiton; Messrs. Bell and Co., Edinburgh; Messrs. Maguire and Son, Dublin; Mr. Abbe, Dewsbury; Messrs. Goddard and Massey, Nottingham; Dr. Parry, Pontycymer; Messrs. Baily and Co., Cambridge; Mr. Hollins; Mr. Chitty, Hastings; Mr. Reynolds, Castle Donnington; Mr. Buckley, Bulwell; Mrs. Cherry, Plymouth; Mr. Sergeant, Camden Town; Mr. Jefferson, York; Dr. Campbell, Carlisle; Messrs. Wyley and Co., Coventry; Dr. Martin, Landore; Messrs. Cassell and Co., London; Messrs. Wilson and Co., Brentwood; Numa, Liverpool; Castle; E. R., Brighton; Alpha, Dudley; A. B.; Mid, London; M.R.C.S., Bath; R. S., Epperstone; Substitute; Surgeon, Southport; Alpha, Finsbury-park; A., Oxford; Medicus, Ketton; M. B. B.; S. C.; Delta, York; P. D. H., Weymouth; F.R.C.S., Birmingham; Medicus, Chesterfield; Medicus, London; H. S., Limehouse; Epsilon.

Weymouth and Dorset Guardian, Calcutta Englishman Money Market Review, Galignani's Messenger, Liverpool Courier, Cork Constitution, Western Morning News, London Commercial Record, &c., received.

Medical Diary for the ensuing Week.

Monday, July 28.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

Tuesday, July 29.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Wednesday, July 30.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1½ P.M.—Skin Department: 9.30 A.M., on Tuesdays and Fridays.

ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.

GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

Thursday, July 31.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, August 1.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.

Saturday, August 2.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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Books and Publications		£0	5 0
Official and General Announcements		0	5 0
Trade and Miscellaneous Advertisements..		0	4 6
Seven lines and under (each averaging ten words).			
Every additional Line		0	0 6
Front Page	per Line	0	1 0
Quarter Page		1	10 0
Half a Page		2	15 0
An entire Page		5	5 0

The Publisher cannot hold himself responsible for the return of testimonials, &c., sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on page 2, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Sons' Railway Bookstalls throughout the United Kingdom, and all other Advertising Agents.

Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 68, Rue Caumartin, Paris.